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GEORGE H. SIMMONS, M.D.

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Addresses

NEUROLOGIC TEACHING IN AMERICA.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON NERVOUS AND MENTAL DISEASES, CHICAGO, 1908.

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PHILADELPHIA.

HISTORICAL.

A more brilliant exponent of the teaching of neurology and psychiatry than Benjamin Rush, who in the latter part of the eighteenth century first inaugurated such instruction in this country, would have been difficult to select. In a lecture on "The Necessary Connexion Between Observation and Reasoning in Medicine," delivered Nov. 7, 1791, before the medical students of the University of Pennsylvania, Dr. Rush outlined a course of lectures which he was about to give. He divided the institutes of medicine into physiology, pathology and therapeutics. Under physiology he stated: "I shall include the faculties of the mind in this part of our course and shall endeavor to explain their operation in a manner so simple as to make them intelligible to the youngest student of medicine."

A syllabus of these lectures, with the additions which became necessary after the author undertook to teach the practice of medicine, was subjoined to this lecture.

Under the head of physiology, among other divisions, he has that of the nervous system in which are included the offices of the brain, nerves and muscles, and under faculties and operations of the mind he takes up its subdivisions, such as instinct, memory, imagination, understanding, will, passions, emotions, faith, etc.

Under practice of medicine he discusses "the diseases as they appear in the blood vessels and nervous system, in the latter of which are included the nerves, muscles, brain and mind, and the alimentary canal predominating in each of them more or less according to circumstances."

It will be seen from the above that Rush was in the habit of discussing at length in his medical lectures the nature and phenomena of diseases of the mind and of the nervous system. Doubtless his work on "Diseases of the Mind," which was first published only a few months before his death, was the ripe fruit not only of years of study and observation, but also of teaching. This treatise was the fifth volume of his principal works in seven volumes, which is entitled "Medical Inquiries and Observations on Diseases of the Mind," and appeared first in 1812, passing through several editions.

It would hardly seem necessary at this time to emphasize again the important place in the history of medicine occupied by Benjamin Rush were it not for the fact that, so far as I know, after his death in 1813 and until 1870, a period of fifty-seven years, no systematic teaching in psychiatry was attempted in any medical school in this country. Not only that; but his work on psychiatry was the only systematic American treatise on this subject until the year 1883, when William A. Hammond and C. E. Spitzka and later E. C. Mann published text-books on insanity.

FIRST LECTURESHIP ON NERVOUS DISEASES.

Doubtless diseases of the nervous system as distinctive from diseases of the mind were taught from the time of Benjamin Rush under the head of practice of medicine. It was not, however, until 1867 that the first distinctive lectureship on diseases of the nervous system was established in the Bellevue Medical College in New York City. In that year Dr. William A. Hammond first taught this subject. This distinguished physician after having been Surgeon-General in the United States Army went to New York and soon after his arrival became interested in editorial work, and for five years, beginning with 1867, he edited the *Quarterly Journal of Psychological and Medical Jurisprudence.* Later he also edited the *New York Medical Journal* and the *Journal of Nervous and Mental Disease.* He was appointed professor of nervous and mental diseases in the Bellevue Hospital Medical College in 1867, this probably being the first professorship in nervous diseases held in this country. He taught there for six years and in the University Medical College for nine years more. In 1871 the first edition of his book on nervous diseases appeared. Although it was a complete treatise, it was published as a second volume to "A Treatise on the Physiology and Pathology of the Nervous System," the fourth volume of Dr. Austin Flint's "System of Physiology" forming Volume I. The first edition was soon exhausted, and a second was put out without reference to the volume on physiology. This was the first distinctive book on diseases of the nervous system by any American writer and found such favor that it was translated into most of the foreign languages.

A year later a lectureship on diseases of the nervous system was established in the College of Physicians and Surgeons, New York City, now the medical department of the Columbia University. The first lectures were given by Dr. E. C. Seguin during the summer session of 1868, and the first clinic for diseases of the nervous system was announced in 1874 and was given by Dr. Seguin. This was the beginning of clinical teaching in New York City. He was succeeded by Dr. M. Allen Starr, who still holds the position.

About this time, that is, in 1864, Dr. J. Hughlings Jackson made his memorable suggestions that movements of the various parts of the body are controlled by special convolutions, and in 1868 he first applied the principles of evolution and dissolution to the study of language. It was undoubtedly through the enthusiasm created by the work of this master, combined with the researches of Hitzig, Fritsch, Ferrier and later of Charcot, that diseases of the nervous system gained an additional and renewed importance, and from this time began a new era in neurology.

THE FIRST NEUROLOGIC PAPERS.

In America the first neurologic papers appeared between 1864 and 1874 when Dr. S. Weir Mitchell, of Philadelphia, published a number of important contributions to neurology, the first being his celebrated work on "Injuries of Nerves," in collaboration with Morehouse and Keen; while in 1874 Dr. J. J. Putnam, of Boston, with the assistance of Drs. Bowditch and James, experimented with faradic currents on the cortex and subcortex.

Following the lead of the Bellevue Medical College and the College of Physicians and Surgeons of New York, other medical schools soon fell in line. In 1871 Dr. H. C. Wood was appointed lecturer on nervous diseases in the University of Pennsylvania and in 1873 he was made clinical professor.

In the West, Dr. J. S. Jewell was appointed in 1872 professor of nervous and mental diseases in the Chicago Medical School, now the Medical Department of Northwestern University. Dr. Jewell took a leading part in organizing the American Neurological Association, and was not only its first president, but occupied that honored position for five years. As a matter of history it is interesting to record that Dr. S. Weir Mitchell was elected the first president and Dr. Jewell the first vice-president, but for personal reasons Dr. Mitchell declined to serve and Dr. Jewell became the first president. Dr. Jewell also in 1875 founded the *Journal of Nervous and Mental Disease.*

In Boston, Dr. J. J. Putnam was first made lecturer in neurology in 1872 at Harvard University, and after occupying various positions was made professor of diseases of the nervous system in 1893, when the department of neurology was made separate.

BEGINNING OF SYSTEMATIC INSTRUCTION.

Although from this time on professorships in neurology were established in nearly all the medical schools, it was not until within a few years that systematic teaching was attempted, for, curious as it may seem, although the general medical public, as a rule, recognizes the importance of neurology as a distinct branch, in some of the medical schools neurology is still regarded as part of the general course in medicine. In Harvard, for instance, it was made a separate department in 1893, while in the University of Pennsylvania it was not until shortly after 1901, when Dr. Charles K. Mills was made clinical professor of nervous diseases, that the department of neurology became separate from that of medicine, and this subject was for the first time taught entirely by its members. It was also at this time that systematic ward class teaching was first instituted.

The teaching of neurology was not confined exclusively to the medical schools, for in various nervous clinics and hospitals which were established in different parts of the country independent neurologic teaching was done. Among the best known of these, and probably the first neurologic clinic in this country, was the Orthopedic Hospital in Philadelphia, which was established in October, 1867, the neurologic department of which, designated as the infirmary for nervous diseases, being opened in 1870 with Dr. S. Weir Mitchell in charge and Dr. Wharton Sinkler and others as assistants. The out-patient department in this clinic is enormous, and here such well-known men as Drs. S. Weir Mitchell, Wharton Sinkler, Morris J. Lewis, J. K. Mitchell and others taught and are still teaching. It was from this clinic that Dr. S. Weir Mitchell published his "Clinical Lessons."

ESTABLISHMENT OF NERVOUS WARDS.

No American neurologic history would be complete without some reference to the nervous wards of the Philadelphia Hospital, which were established in 1877 through the energy and far-sightedness of Dr. Charles K. Mills. These wards which had thirty-five patients in 1878 now have on an average about four hundred organic nervous cases, this being undoubtedly the best collection of nervous material in any one hospital in America and possibly the equal of any abroad. From 1877 patients from these wards have been used for clinical teaching, first by Dr. Mills and later by such men as Wood, Bartholow, Dercum, Lloyd, Sinkler, Burr and others.

Electro-therapeutics as a department of neurology began to be taught about the year 1875 by Neftell and Beard and Rockwell, of New York. Beard and Rockwell were the first to write a book on this subject, it being entitled "A Treatise on the Medical and Surgical Uses of Electricity," published in 1881. In Philadelphia Dr. Charles K. Mills was appoited lecturer on electro-therapeutics in the University of Pennsylvania in 1877.

Neuropathology as a distinctive branch and under that name was taught by Dr. E. W. Taylor, of Boston, in the spring of 1891 in Harvard University, although this subject was undoubtedly taught previously under the head of pathology. Dr. William G. Spiller was the second to teach neuropathology, he being appointed assistant professor of neuropathology in the University of Pennsylvania in 1901 and in 1903 full professor. Since then similar positions have been created in Harvard, the Medico-Chirurgical College of Philadelphia and elsewhere.

Before discussing the present methods of teaching neurology, it might be well to briefly review the history of the teaching of psychiatry. After Benjamin Rush there were no lecturers on insanity until 1867, when Dr. William A. Hammond taught in the Bellevue Hospital Medical College, and following him Dr. E. C. Seguin in the College of Physicians and Surgeons of New York in 1871.

In Philadelphia psychiatry was not taught until 1870, when Dr. Isaac Ray was appointed lecturer on insanity in the Jefferson Medical College of Philadelphia. He taught during the spring sessions of 1870-1872 During the time that he was engaged in lecturing and partly with the view of illustrating his remarks Dr. D. D. Richardson, then superintendent of the insane department of the Philadelphia Hospital, gave clinical demonstrations on insanity to students at the hospital. Not only was Dr. Ray one of the earliest physicians in the United States to follow the example of Rush and pay special attention to the study of psychiatry, but he was the first to write a book on the "Medical Jurisprudence of Insanity," it being published in Boston in 1838. After him Dr. Charles K.

Mills taught psychiatry in the University of Pennsylvania, being appointed lecturer on mental diseases 1881 and being later made professor of mental diseases and of medical jurisprudence in 1893. In Boston the first teaching was done by Dr. C. F. Folsom, who lectured on mental diseases in Harvard University in 1877.

In discussing the methods now employed in teaching neurology in the medical schools of America, it will be manifestly impossible to review all; consequently only four have been selected, these being the medical departments of Harvard, Cornell, Pennsylvania and Northwestern universities. Attention, however, has also been paid to the methods of other schools, chiefly of Columbia and Bellevue of New York, Jefferson and the Medico-Chirurgical in Philadelphia, Johns Hopkins, Baltimore, and Rush Medical College in Chicago, the courses in which do not differ radically from those in the four institutions selected for analysis.

METHODS AT HARVARD.

Perhaps the most elaborate course in both nervous and mental diseases is given in Harvard. Here the department of neurology has been separate since 1893, although psychiatry until last year formed a part of the department of theory and practice. Neuropathology became separate a year ago, but is in close affiliation with both the pathologic and neurologic departments. Neurologic teaching begins in the second year, with a course in neuropathology for a period of three weeks, occupying each afternoon. This time is given to a lecture, or talk, of an hour explanatory of microscopic sections and two hours is given to laboratory work. Lantern slides are freely used. In addition to these required exercises two or three quizzes are given of a wholly voluntary character in which anatomic considerations are reviewed. These lectures are preparatory not only for the study of neurology, but also in part for that of psychiatry, while the laboratory work aims, so far as possible, to fit the student to better appreciate clinical work and to complete his knowledge of pathology. An optional course is also given in applied psychology.

In the third year the student receives one clinical lecture a week in neurology during the first term and two during the second. These lectures are made as informal as possible and deserve rather the name of conferences. Besides, two exercises a week are given in psychiatry throughout the whole of the second term. One of these exercises consists in a lecture and the other in a clinical demonstration in an insane hospital.

The fourth year is given up largely to elective courses and the students who elect neurology and psychiatry spend nominally about two hundred hours in practical work in the out-patient department of the general hospitals. In detail the classes consist of about five men each and each class has two months' teaching, during which they spend three forenoons a week in neurology and two in psychiatry. As a part of this course the students receive some special instruction in neuropathology and also have a weekly evening conference. Besides, there is an elective course in the department of neuropathology. This consists either of all day teaching for a single month or half a day for two months. The method of instruction is elastic and varies with the desires and preparedness of the individual student. The teachnical methods of neuropathology are taught and sometimes a neuropathologic problem is given.

NEUROLOGY AT CORNELL AND NORTHWESTERN UNIVERSITIES.

In Cornell University, the neurologic department is distinct from the department of psychiatry. The second-year students are taught the normal and pathologic histology of the nervous system in a laboratory course of six weeks. In the third year a course of thirty-two clinical lectures is given, and the students are divided into classes of twelve, each of which has twelve hours of practical work in the dispensary. In the fourth year twenty-four clinical lectures are held and the classes are divided into sections, each having six hours of bedside instruction in the hospital wards. Psychiatry is taught by lectures, clinics, reviews and optional section work in the fourth year.

In Northwestern University all the neuropathologic work is under the department of pathology. In the third year neurology is taught by recitation only. In the fourth year didactic lectures are given once a week for the first half of the year on nervous diseases and in the second half in psychiatry. Besides one clinical lecture a week on nervous diseases is held throughout the whole year. The students are also divided into dispensary classes of twenty, each having two hours daily for four weeks, and are also divided into small classes for ward walks.

INSTRUCTION AT UNIVERSITY OF PENNSYLVANIA.

In the University of Pennsylvania instruction begins in the third year, the men being given a course in neuropathology, each man having one hour a week for the first half of the term. First, gross specimens are shown, and later lantern demonstrations illustrative of the different diseases. In the fourth year two clinical lectures are held for the first half of the term and one in the second half. The students are also divided into classes of ten, each man receiving ward instruction weekly for the first half of the session. In addition the students in small classes have as part of the course what are termed ward visits in which particular attention is paid to the method of recording as well as studying cases. Psychiatry is taught by the professor of mental diseases who gives one clinical lecture a week in the first half of the fourth year.

In reviewing the methods employed in these four schools it will be seen that in all, with the exception of Harvard, instruction is somewhat alike, in so far as the fourth year is concerned. Clinical lectures are given both in neurology and psychiatry, and ward classes are held either in one-half or throughout the entire year. In the third year in the Northwestern University recitations only are used, in the University of Pennsylvania neuropathology only is given, while in Cornell both clinical lectures and ward classes are held. In the second year there is no direct neurologic instruction with the exception that in the course of pathology reference is made to the nervous system. In Harvard pathology is taught in the second year, clinical lectures on nervous and mental diseases are given in the third, whereas in the fourth year it is optional with the student whether he elects neurology and psychiatry.

TEACHING NEUROLOGY IN EUROPE.

It is interesting to compare the methods employed in this country with those of the leading schools of Europe, although comparisons are rather difficult to make because the methods of medical teaching are so different.

In Vienna, for instance, the students are required to devote one semester each to clinical neurology and psychiatry. These consist of five clinical lectures each week, one hour in duration, and the student may take these during the seventh, eighth or ninth semesters, as he prefers. Neuropathology as a distinct branch is considered extra work and is not a required part of the curriculum.

In Paris neurologic teaching is not conducted systematically, but is divided among the departments of anatomy, physiology, pathology and clinical medicine. In addition courses are given by the professor of diseases of the nervous system and the professor of psychiatry, these consisting of clinical lectures in the various hospitals and clinics. No systematic teaching is attempted, however, and each professor lectures on those topics which interest him. Ward class teaching, as it is known in America, is not given to the undergraduate student, and neuropathology is considered a postgraduate study.

In England neurology is taught as a part of general medicine. In the London Hospital, for instance, Dr. Head, being interested in nervous diseases, has more neurologic patients in his beds than the other physicians and he lectures on these cases every week and gives definite teaching in neurology, and any student, whatever his standing, can attend. In the physiologic class, instruction is given in the structure and functions of the nervous system, and in the class in pathology specimens are shown illustrating nervous cases.

It will be seen, then, in comparison, that is, so far as systematic teaching of neurology to undergraduates is concerned, the American schools are by far in the lead, especially of those in France and England, and possibly of those in Germany and Austria. Whether the results are as good or better is difficult to tell because the course of study abroad is longer, and again no adequate comparisons are possible.

POSTGRADUATE INSTRUCTION IN AMERICA.

Postgraduate medical instruction in this country has not received the attention that it has abroad. The first postgraduate school was the New York Polyclinic, established in 1881. A year later the Postgraduate School was established in New York and the Polyclinic in Philadelphia. Here the students are taught in the outpatient departments of the attached hospitals and cases are demonstrated, but no systematic teaching is attempted. In Harvard a postgraduate course is given, this practically consisting in the fourth-year undergraduate instruction.

An essay of this kind would hardly be complete without some effort being made to outline a course which would be peculiarly fitted to the needs of the American medical student.' From the experience of others and also from my own experience it is rather questionable whether it is possible to give a satisfactory course in the limited hours assigned to neurology and psychiatry in a four-year course. Paradoxical as it may seem, neurology has not received attention in the curricula in some of the leading medical schools equal to that of some of the other specialties, as, for instance, the eye. There is no need of discussing here the importance of teaching the student more of nervous and mental diseases, for that is evident, and yet even at the present time neurology receives such little attention that in most of the medical schools those who hold neurologic professorships are not members of the major faculty. Not only that, but in some of the schools a separate examination is not given by the professor of the department. In still a number of others the lectures are given by the professor of medicine, while the clinical lectures are held by the professors of nervous and mental diseases.

In the first place, when considering the nature of our medical students and the methods of our teaching, it is a matter of universal experience that students will not pay much attention to a subject in which there is no required examination. Not only should an examination be held in neurology, but it should also be held in psychiatry. At the present time lectures are given in mental diseases, and it is optional with the student whether he attends and no examination is given, at least that is the rule in most of the medical schools.

Of course, it is taken for granted that the student who graduates at a four years' course can only have a general knowledge of the specialties, and it is not to be thought for a moment that any effort should be made to make him a specialist. The best that should be attempted is to give him a good course in the principles of the anatomy, physiology and pathology of the nervous system and to teach him how to recognize the more important nervous and mental diseases and how to treat them.

GENERAL NEUROPATHOLOGY NOT A SPECIAL BRANCH.

It is rather questionable whether general neuropathology should be taught as a distinct branch. My personal views are that the general pathology of the nervous system should be taught as part of the regular course in pathology and that it should be given in the second year by a specially trained neuropathologist. After all, the pathologic changes in the nervous system are not so very different from those in any of the other organs of the body, and a course consisting of two or three hours daily for a period of three weeks will fully cover the subject. It is advisable in this course to teach the student only the more important stains and general pathologic changes so that he should be prepared to appreciate further instruction. The special pathology of the different diseases of the nervous system should be taught later.

It is a good plan to begin the third year by a course in terminology. Then the student should be instructed in the ordinary clinical signs, such as reflexes, the different tests for sensation, gait, station, etc. In other words, he should be given a clinical demonstration of the ordinary signs employed in nervous diseases and their meaning. After this it is advisable to take up serially the teaching of what could be called applied anatomy and physiology.

A METHOD SUGGESTED.

By that I mean, for instance, this: A brain is shown and the different fissures and convolutions outlined. Then starting, for instance, with the motor centers, the physiologic subdivisions of the precentral convolution are given and the students told what irritative and then what destructive lesions will produce. An ideal plan would be, if such a thing is possible, to show a patient illustrative of the subject, but this is hardly feasible. If this plan is continued, the anatomy, physiology and pathology of the brain can be taken up in serial order, first of the cortex, then the subcortex, internal capsule, crus, pons, medulla and later of the spinal cord, illustrating the whole course with pathologic specimens and lantern slides both of normal and then of pathologic specimens. This subject can be thus covered in the first half of the term with two hours a week.

In the second half of the term the different diseases then can be taken up in serial order and the symptoms taught, applying the knowledge gained from the instruction in the previous term. The pathology of the more common mental diseases should be included. In conjunction with this course the student should attend the clinical lectures on nervous diseases which are primarily held for the fourth-year men, and, if possible, ward classes should be given in the second half of the term or throughout the entire year, so that the student should be able to fix more definitely the didactic instruction received.

In the fourth year the primary object of the teaching should be to show as many clinical cases as possible and to teach the student to reason the pathology from the clinical symptoms. It is questionable which is the better method of teaching, that is, whether it is advisable to take up a certain given subject like hemiplegia and devote one-half of the lecture to the didactic exposition of the symptoms and then to illustrate by the cases, or to show patients immediately, making the remarks depend on the individual case. My own views are that the first plan is the better. If this plan is followed, the more common diseases can be taught first and toward the latter end of the year the rarer cases can be taken up.

There should be at least one clinical lecture a week, and if possible two, throughout the entire year. Besides, the class should be divided into groups of no more than ten and taught either in the out-patient department of a hospital or in special nervous wards.

Each student should receive at least one hour a week throughout the entire year. In conjunction with this, if there is time and material, it would be a good plan to place each student in charge of a certain number of cases in the wards of a hospital and make him responsible in a manner similar to that of a resident physician.

Psychiatry should be taught throughout the entire fourth year. It would be a good plan to first give a short didactic course, to be followed by clinical lectures. Here, also, it should be advisable to divide the class into sections and give personal instruction in the wards of an insane hospital.

The course that is herein laid out is one that is followed with few exceptions in the Medico-Chirurgical College.

The exceptions are that no ward classes are held in the third year in nervous diseases and none in psychiatry in the fourth year. In the present scramble for more teaching hours, a subject of the utmost importance to every one connected with medical institutions, it is evident that we are coming to a time when it is impossible to crowd more hours into the curriculum of the already overworked student, and it is imperative that the course should be lengthened with an additional year.

This has been recognized by most medical institutions, and it is only a question of a few years when such a step will have to be taken, for with the increased entrance requirements and demands made on the graduate it is necessary that he should not only be more proficient in the fields of general medicine and surgery, but that he should also be better equipped in the specialties.

2030 Chestnut Street.

DISCUSSION.

Dr. Charles E. Beevor, London, Eng., said that in England there was no special course of *instruction on diseases of the* nervous system. Diseases of the mind were separated from diseases of the nervous system, and there was a special course on diseases of the mind. Diseases of the nervous system, however, were considered as properly embraced in the student's study of general medicine, and no more properly subjects for special instruction than diseases of the lungs, kidneys or other part of the body. Dr. Beevor said that in every hospital in London there was always in charge of all the nervous cases one physician especially interested in nervous diseases. This physician showed the students pathologic subjects and really taught them just as students were instructed in the hospitals here. The intention, however, was to produce good general all-round practitioners.

Dr. Beevor explained that the English student, after completing his course, came around to special hospitals and then to a hospital like National Hospital of Queen's Square, there meeting and studying nervous diseases; or he might come to the hospital before finishing his undergraduate course. He thought that perhaps they did not specialize quite as much in nervous diseases in London as in other countries. At the National Hospital, Queen's Square, almost every physician was also a physician in the general hospital. Dr. Beevor said that he himself, besides being in the National Hospital, was also physician at the Great Northern Hospital, where he saw cases of rheumatism, typhoid, pneumonia, and in fact all general medical cases and he believed that this was a good thing.

Dr. Beevor thought that, if the neurologist saw nothing but nervous cases, he was led to view everything through neurologic spectacles. The daily sight of cases of pneumonia and rheumatic fever would prevent that mistake. He said that the general practitioner often referred to the specialist a case of miscalled nervous disease. Dr. Beevor instanced three such cases which had been brought to him. The general practitioner had made the erroneous diagnosis of melancholia. Another was called paraplegia in a patient with gangrene of the foot. That was very rare in connection with nervous disease. Examination developed a thickening of the bone at the brim of the pelvis which accounted for the pressure on the artery and for the gangrene. The person had a large clavicle, a large humerus, and was suffering from osteitis deformans.

The third case had been brought to him as a case of cerebral tumor. The patient suffered from heavy vomiting and possible neuritis. Dr. Beevor examined the patient and found cardiac hypertrophy and high tension pulse. The general practitioner did not know whether there was any albumin present or not. Dr. Beevor asked leave to examine for it and found albumin. That was evidence of granular kidney, and none of tumor of the brain at all. Dr. Beevor added that the patient did not believe him because he was a nerve specialist, and went to a general physician to have the diagnosis confirmed.

Dr. M. Allen Starr, New York City, said that it seemed to him that the profession was confronted with two alternatives: Was the average medical student to be given a fair general knowledge of neurology such as would enable him to do his work in the world as a general practitioner, or the careful, differential training of a specialist? The first, he said, was the endeavor of the College of Physicians and Surgeons; the second was what Harvard University was trying to accomplish by the optional or elective course. Dr. Starr thought that the English method as detailed by Dr. Beevor was, perhaps on the whole, the better for the general practitioner and that medical education was bound to produce well-rounded medical students and not specialists. He thought that the finer special line of work obtainable in Germany in the special clinics, or in England at the National Hospital at Queen's Square could not be given in this country.

Dr. F. X. Dercum, Philadelphia, said that specialists had forced medical schools to give undue attention to the specialties. When he was first given an examination in neurology at Jefferson Medical College, his average had counted 100, the same as in internal medicine. Now it counted 40, which Dr.

Dercum thought an improvement and not a lowering at all in the importance of neurology. He said that the students at Jefferson Medical College received in the third year a course in neuropathology and formal clinical demonstrations in nervous diseases; in their fourth year they had section teaching and clinical and didactic lectures on both nervous and mental diseases. He believed that, if more time were set aside for special branches, internal medicine would not receive its due proportion. Special teaching, he believed, should be principally postgraduate.

Dr. Charles K. Mills, Philadelphia, feared that what had been said might be misinterpreted by some to mean that the occupant of the chair of the practice of medicine could teach neurology, and some other subjects, such as dermatology or pediatrics as well as the specialist, or better. Dr. Mills was strongly in favor of the teaching of the special branches comprised in general medicine by those best versed in those branches. He believed that special teaching should be proportioned to the time which the student had for everything.

Dr. Mills was inclined to believe that the American system was better than the English in having recognized specialists as professors and lecturers on neurology. He believed that they should also examine on neurology, that the examination should be controlled by the teachers of the subject; and that the student should be given a mark proportionate to the importance of the subject. He thought that good neurologic teaching could be given only by good neurologists.

Dr. Archibald Church, Chicago, said that the purpose at Northwestern University had not been to develop specialists; nor even to cultivate the research student especially. The school had for its object the production of practitioners of medicine, and this idea had been a controlling principle in the neurologic department. He said that in the second year a course in connection with the chair of physiology was given by a trained neuropathologist on the physiology of the nervous system. In this course not only was an understanding of the physiologic aspect of the nervous system sought, but attention was also focused on the modification of functional responses by pathologic conditions. Thus in conjunction, for instance, with the physiology of the reflex arc, the modification of the minor reflexes presented by diseases in various portions of the arc, or any conditions modifying responses in that arc, were brought to the attention of the student. He said that, in short, the symptomatology pertaining to the physiology of the nervous system was given to the second-year student. Neuropathology was taught as far as included in the general subject of pathology. The faculty hoped later to have a neuropathologist give those studying pathology a special course on the pathology of the nervous system in the second or third year.

In the third year a course was conducted by the assignment of a certain number of pages of text-book, portions of the text-book being selected for the purpose of training the student to a knowledge of symptomatology, including the methods of examination and the peculiar features of neurologic conditions. The purpose of this text-book course in the third year, Dr. Church said, was so to instruct the student that in his fourth year he might be in position to study intelligently the large amount of clinical material presented.

In the Northwestern University, as everywhere else, Dr. Church said, the internist desirous of doing everything, and the specialist desirous of teaching everything, had existed; but the tendency had been to subject the neurologic specialty to the field of general medicine; to attempt to teach as well as possible, special subjects, not with the purpose of making specialists and research students, but of so equipping the all-round professional man that when confronted with the ordinary or even with the rare forms of diseases of the nervous system, he might grasp the situation, make diagnoses, and give the best treatment provided by the medical profession. Dr. Church added that, on observing the work of the graduates of this school during the last eighteen years, it was seen that those who graduated ten or twelve years ago were not as well equipped as those who graduated five years ago; that cases of multiple neuritis were no longer brought to specialists with the presumptive diagnosis of tabes; that where formerly many rare forms of nervous disease were not recognized at all, it was no unusual thing now for recent graduates to bring cases of tumor well diagnosed, well located, well considered from every point of view; and that many of the rare forms of pathologic changes were equally well presented by them.

Dr. D. I. Wolfstein, Cincinnati, O., said that on account of the congenital aplasia of medical altruism in this country in connection with the acquired hypertrophy of political influence, it was doubtful if one would often have the opportunity of holding two chairs—one in internal medicine, and one in neurology. It was as much as any one could do under crude American methods to get one position. He said that many students after four years of the ordinary American curriculum, still looked on the pyramidal tract as some wandering pathway down the side of Cheops. There was, he thought, a considerable field for careful teaching of the student in college by the trained neurologist. Such instruction could not be properly given by the professor of internal medicine at all for his field was too broad, his time too limited, and his course too extended. Dr. Wolfstein doubted the wisdom of placing too much stress on a complete laboratory course in neuropathology. Neuropathology more than any other branch of pathology must be founded on thorough understanding of neuro-anatomy. Six weeks' instruction would be quite inadequate; three months might accomplish more, but he feared that all that the average student would get would be a hazy idea of the appearance of Weigert and Marchi specimens under the microscope. In order to draw any valuable deductions at all it was necessary to work intimately with the material for a long period of time and, as a rule, to cut complete serial sections. Much could be done, however, even in this short time and especially if the instructor demonstrated typical specimens.

Dr. Wolfstein believed that the great error in specialism to which Dr. Beevor had referred—one-sidedness—would be obviated only when men should take up the practice of neurology as a specialty after a thorough training in general medicine. To illustrate the errors in diagnosis made by practitioners without previous training, Dr. Wolfstein cited the case of a young lady seen by him who had been treated for neurasthenia for two or three years. Her temperature was 99.5, and Dr. Wolfstein, on careful examination, found that her neurasthenia was due to a widespread tuberculous involvement of both apices. Dr. Wolfstein thought that the tendency here as in England should be to specialize only after a broad general education and experience in the principles of medicine.

Dr. George Waterman, Boston, said that the case system of teaching had been adopted in the medical department of Harvard University, from the methods employed in the law school. The third-year students each provided themselves with a book containing reports of about one hundred and fifty cases, illustrating in various ways the different diseases of the nervous system with which they were expected to become familiar. In this book the organic and functional cases were mixed in such a manner that cases apparently more or less similar might have widely different causal pathologic bases. Students had their demonstrations and their lectures and discussions for the first two-thirds of the third year. The last third of the third year was given up to this system of case-teaching. Dr. Waterman explained that two students would be given one of these cases to study outside, having a week for preparation, and to arrive at their diagnosis. Then they were supposed to present the case to the class, first giving the focus of the lesion, then the nature of the lesion and its probable cause. They would then submit to questioning by the rest of the class. The subject would then be taken up for general presentation by the one conducting the course. This had been found a valuable method of making the students use their wits in making diagnoses themselves.

Dr. Waterman considered that the students still lacked that which could be acquired only by personal contact with the patient; and this was provided by the fourth year course of two months which was not intended to make specialists of the students, but simply to enable them to get at the root of the disease without having it presented to him by others.

In this course, which was taken by half the class in the fourth year, the men were made to take patients for half an hour, to take the history and make the diagnosis, and then to present the case to the class. He said that the students rarely specialized in neurology on graduation, but they were enabled to meet neurologic cases better than when prepared simply by didactic lectures and by the reading of cases.

THE GROWTH OF EDUCATIONAL REQUIREMENTS AND OPPORTUNITIES IN STOMATOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON STOMATOLOGY AT THE FIFTY-NINTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, 1908.

E. A. BOGUE, M.D., D.D.S.
NEW YORK.

It has seemed to me appropriate to draw the attention of the members of this body to the now rapidly changing conditions that affect our specialty. The physician and surgeon of long ago was supposed to be qualified to practice medicine and surgery in all its branches. The extent of the field presently caused certain ones, who had had their attention turned specially in certain directions, to become specialists.

About 1837 or 1838 the University of Maryland School of Medicine was petitioned to establish a dental department. The movers in this petition were themselves medical men who had turned their attention to affections in and around the mouth as a specialty. There were, however, so many others practicing this art, without any legal qualification, and engaged mostly in prosthetic work, that is, in supplying lost tissue, whether that loss consisted of parts of single teeth or of whole teeth or many teeth, that the Baltimore school returned a negative answer to the petitioners. These gentlemen being broader in their views than the authorities of the medical school, themselves founded a school in 1839 for the instruction of those wishing to practice dentistry, whether they were graduates in medicine or not.

From this small beginning in this country have grown the fifty-five dental colleges in the United States entitled to confer the doctor's degree without the full medical course. There are also two dental schools or departments in Canada, two or three in Italy, two in Switzerland, three or four in England having a limited connection with medical schools, and at least two in France acknowledged by the government as being of "public utility."

While a full medical course is not required of the dental practitioner in this country, Russia, Austria, Hungary, Roumania, Italy, and I know not how many other countries, all require a medical degree to be held by the practitioner of dentistry. A few countries—for example, Germany, Hungary, Austria, Spain—have provided a certain amount of dental teaching in their university courses, but the strictly dental and stomatologic teaching provided for the dental practitioner is quite as limited in amount as the medical teaching in the dental schools of America and England. When it comes to the treatment of serious oral disease, therefore, the stomatologists of Europe, as a class, look down on the dentist as lacking in professional training, while the dentist, engaged so largely in preventive work, looks on the medical man practicing dentistry as incompetent because he does not prevent the very diseases which the dentist has so assiduously qualified himself to treat; for the serious diseases, especially those requiring surgical treatment (unless they are congenital) are seldom if ever found in mouths where the teeth are in good condition. This, roughly stated, leaving out all unnecessary points, is the condition recognized by the stomatologists of Europe, who held a convocation in Paris last summer, from August 1 to August 5. This meeting was attended by about 250 men, all holding medical degrees, and a society was formed with a membership of about 400. Of this more later.

I may say right here that the intellectual qualifications of these gentlemen as a whole are, so far as I could judge, far in advance of any body of dentists of the same number that I have ever met. I make this admission now in view of certain criticisms which I feel bound to utter.

One incentive to this meeting of stomatologists was doubtless the refusal of the authorities, acting for the International Medical Congress to be held in Budapest in 1909, to recognize as members of the oral section any other persons than those holding medical degrees.

International medical congresses since the one held in Washington in September, 1887, which recognized dentists as practitioners of the healing art, have with one or two exceptions continued to recognize them, up to and including the meeting in Berlin, and to admit to the meetings of the oral section dentists in good standing holding degrees from reputable dental colleges.

The American Medical Association, thanks largely to the influence of Dr. Talbot, which has been continuously exerted for many years, maintains the same attitude still and admits to its section graduates of reputable dental schools.

The New York *Post-Graduate,* a journal of medicine and surgery, says in its issue for October, 1907:

> The first dentists of this country were nearly all graduates in medicine. The medical profession made a great mistake that it did not warmly welcome this new specialty taken up by men in its own ranks. It is our fault that all dentists are not first graduates in medicine, and many of them are. This error will finally be fully corrected. American dentists have made themselves famous throughout the world by their practical and scientific attainments. They were, in the beginning, members of our craft and would have remained so but for our failure to give them a warm welcome. Specialists in medicine were then under the ban.

This kindly prophecy presupposes that an ever-increasing number of educated men will adopt dentistry as a calling, and that the logical outcome will be that a larger number of dentists will take also the medical degree in order to fit themselves more fully for their life work, or else that each educational institution will make such modifications in its curriculum as to permit it to confer the medical degree, or its equivalent, on all medical specialists.

The establishment of independent dental schools was by no means an unmixed evil, for it has resulted in giving more or less training to a vast army of ingenious men, who have improved on their teachings until they have truly "made themselves famous throughout the world" for their skill, notwithstanding the limited scope of the teaching they had received and the limited field that they occupied. This led to concentration, and concentration has brought results, although the practitioners were not medical graduates.

It is true that many of the rulers and people high in political and social position in European countries have very generally employed American dentists when they were procurable, and on that account, I have been informed, police protection has been granted to a number of American dentists practicing abroad who had not the necessary legal qualifications for them to practice in the countries where their services were desired.

This condition of things would naturally cause the native dental practitioners, some of whom have been members of the government or of legislative bodies, to become very impatient. The result has been the passage of protective laws, ostensibly designed to protect the people from unskilled practitioners, but really operating to keep out foreign graduates of dental colleges.

This legal condition applies equally to England and France, Italy, Switzerland, Austria, Roumania, and various other European countries, in all of which the foreign dentist is disqualified unless he goes through the same preparation in the country where he wishes to practice as the native of that country is obliged to do before he can engage in practice. Those countries in which the laws requiring the dental practitioner to be a graduate in medicine are the most stringent are those in which the standard of operative dentistry is lowest. There are, of course, a few notable exceptions in every country.

What I have just said is not in disparagement of the very highest qualification possible for the practitioner of any branch of the healing art. It is a bare statement of facts with which we have to deal practically.

As I have previously mentioned, there was formed in Paris last summer an International Society of Stomatologists with a membership of about 400, to the presidency of which Prof. Joseph von Arkövy of Budapest University was called. The object of this society is to draw into closer relations the skilled practitioner of dentistry and the stomatologist, who is recognized simply as a medical specialist, like the rhinologist, the oculist or the gynecologist. Needless to say, it would please the stomatologists if all the first-class dentists became stomatologists, for the stomatologists can not all become first-class dentists, and they decline to be dentists on any other terms.

In 1903 the British Medical Association formed a dental section, thereby acknowledging the importance of dental and oral surgery and giving it its proper position in the medical world. Just at that time there was a movement made in England to separate dental surgery from the medical profession and place it on its own footing, as though it were possible to cut out one branch of the healing art and place it by itself. As if to emphasize the action of the British Medical Association, the new Royal Society of Medicine, formed in England and established in 1907, embracing all departments of medicine, included the entire Odontological Society of Great Britain among its members, thereby accepting quite a number of men who were not full graduates in medicine.

Coming now to our own country, we see that the result of the establishment of dental departments by a number of universities, and the introduction by them of dental teachings, has been to raise the standard of qualifications in every instance, so that in university towns where dentistry is taught the dental graduate of these universities takes rank at once with their other graduates in the estimation of the general public. All this indicates healthy growth and is but a repetition of the process by which the early barbers became surgeons and surgery took its place as the right arm of healing.

Our program shows what this Section is doing for advance, and I think our acknowledgments and sincere thanks are due to the members who have brought us these contributions in our special branch. We may well be proud of the progress indicated by these papers.

Dentistry has been a process of repair and has remained so up to now. It has the reputation of having made great strides; so it has, but principally along mechanical lines. Dr. Miller demonstrated the cause of decay. Dr. Black, by careful analytical research, demonstrated the reason for recurrent decay, and that led to what is now known as "extension for prevention." Dr. Sim Wallace and Dr. Harry Campbell of England have both gone further back, first in causation and then in preventive measures, and not only have announced their conviction that proper feeding would most effectually prevent decay of the teeth, but have put this theory into practice within the last few years by placing a considerable number of children on a diet calculated to promote the proper development of teeth, the proper growth of the jaws, and consequently the proper alignment of the two rows of permanent teeth in the jaws. This condition of things, as is well known to those who have spent any time in the study of the osteology of the head, face and jaws, leads to the formation of rows of teeth that are essentially self-cleansing in the presence of hard and fibrous food, and, therefore, are nearly or quite immune to decay.

The tendency of all research in this direction is to show that the luxurious mode of life of the more civilized countries, and especially of those members thereof who are able to select the finest food, requiring the least mastication and the least effort on the part of the partakers before it is swallowed, is not what is best for the health, either of the dental organs or the individual possessing them.

The effects on the face, nose and jaws of withdrawing the influence of hard and fibrous foodstuffs, which are the natural stimuli to the proper development and growth of these parts, are visible in the narrow jaws and irregular dental arches that so generally prevail. This leads to a general diminution of physical strength, resulting in a diminished resistance to infantile disorders, and almost always resulting in an incompleted adult.

In closing, let me leave this thought: If we "extend" our investigations and practice to "prevent" dental decay we shall most effectually practice "extension for prevention."

63 West Forty-eighth Street.

DISCUSSION.

Dr. G. V. I. Brown, Milwaukee, said that he believed that the meeting at Budapest was entitled to the very best assistance and cooperation it could get from the men in this country who believed the medical degree an advantage in addition to the dental degree. Comparison between the older countries and this was, however, difficult and uncertain because the whole scheme of education there was entirely different from the American. Dr. Brown said that the foreign course of study covered many more years than Americans usually cared to give; the actual hours of study were largely optional with the students, who took examinations pretty much at their own convenience. They drifted into one line or another of special interest to them, and Dr. Brown had learned that it was usual for men to continue in laboratory work there for ten and twelve years without any special thought of taking up the active practice of medicine. In this country, the class rules, the requirements of attendance, the rigorous way students were kept under control, almost like schoolboys, made the whole proposition entirely different. Dr. Brown said that many of the more highly educated men were not good operators in the technical parts of operative work; but on the other hand, some of the best operators this country had ever seen had been medically educated dentists.

Dr. M. H. Fletcher, Cincinnati, said that he thought that the knowledge gained by the study of medicine enabled one to make a more exact diagnosis and to treat in a more comprehensive manner the disease of decay. To him caries was a disease. Dr. Fletcher did not find that he could put in permanent fillings immediately in all cases. He noted the condition of the tooth and of the mucous membrane, and made up his mind from the symptoms and signs present whether or not it was a suitable case in which to do the mechanical piece of work which the non-medical practitioner would call the best operation. Dr. Fletcher agreed with the chairman that there was a higher plane of treating the diseases of the mouth than that which comprehended only the purely mechanical features.

Dr. Thomas L. Gilmer, Chicago, said that to him dentistry was part of medicine. There were many diseases in the mouth other than those affecting the teeth, and the dentist who did not take cognizance of them was not serving his patients in the best possible manner. Dr. Gilmer doubted if it were possible radically and quickly to change the present method of teaching dentistry. Liberally endowed schools for the teaching of dentistry as a special department of medicine might accomplish the change much sooner, but there were no such institutions. He thought that honest schools connected with honest universities should be encouraged and they would in time grow into higher and better things. Dr. Gilmer said that he was decidedly of the opinion that it was not practicable, at least now, for a dentist to secure the medical degree first and afterward acquire his dental education. He believed that, after a man had first graduated in medicine, the specialty of stomatology was not sufficiently attractive to induce him to spend two years more to qualify himself for its pactice. It seemed to Dr. Gilmer that while not the ideal, about the only practicable method at this time was to induce the dentist to continue the study of medicine to graduation after having gained the D.D.S. degree.

Dr. Eugene S. Talbot, Chicago, said that there should be no separate dental schools; all should be departments of universities; there should be no dental graduates; all should be university men on an equal footing with graduates of other departments of universities. The graduate of dentistry should, like other specialists, be educated in all departments of science. Dr. Talbot said that only three or four of the so-called dental departments were in reality dental departments of universities, and that the student's first lesson in dishonesty consisted in learning to believe himself that which he was not. There could be no middle ground: the dental schools were either schools of mechanics, or educational institutions fit to be associated with other departments of a university. Dr. Talbot believed that the weaker schools should unite with the stronger to reduce the number. There should be only one institution for dental instruction in each of the large cities or states. Dr. Talbot thought that the dental profession should anticipate disease and take up the study of preventive medicine. The time, he said, was ripe twenty years ago; and if the teachers in the dental schools had been educated up to the times by the reading of collateral science, they would now have fully equipped physiologic and pathologic laboratories for the purpose of experimental research. More than twenty years ago Dr. Talbot demonstrated the law of economy of growth, or use and disuse of structures. He said that there was a possibility of the prevention of irregularities of the teeth and decay, and that the experiment was worth the trial. The only way satisfactory work could be accomplished was to take a community of people and have them undergo the same methods of treatment for three or more generations.

Dr. Bogue, New York, said that dentists stood in a curious position. The men called in France *médecins de la bouche* (physicans of the mouth), and in Germany *Zahnärtzte* (tooth-physicians), were men who had been graduated as physicians, and later taken up dentistry. The consequence was that they did not at first know anything about denistry. Those men and a few others added had formed themselves into the Society of Stomatologists and ostensibly wished to unite with dentists. Dr. Bogue said that this was admirable, but the question was, how dentists could be parties to that union. Dentists were not all doctors of medicine, and stomatologists would not accept them unless they were. Stomatologists were not all good dentists, and dentists would be sorry to form a union with them unless they were good dentists. Dr. Bogue thought that dentists should be medically educated, but believed it wise to remember also that especially in a new country there were many people with limited income or opportunities who got toothache and were glad to apply to any one for professional services. Dr. Bogue knew that the wife and son of a member of congress went to the blacksmith in their native village to get their teeth fixed. A little knowledge might be dangerous, but it was also helpful.

Dr. Bogue defined good operators as those men who were able, for the longest possible time and in the best possible condition, to preserve in comparative health the teeth treated by them. It was not a question of fillings, which question did not and should not come up. Dr. Bogue could not approve of the destruction of tooth material which is now being waged throughout Europe and elsewhere, filing and chiseling and extracting right and left. It was not necessary, but those men who had not been instructed how to do otherwise were going to do that as the next best thing. European stomatologists, Dr. Bogue said, had not as a class undergone dental instruction, and American dentists lacked a medical foundation. He had hoped to receive light on the question of how to harmonize the two conditions.

Original Articles

A CASE OF ALTERNATING PERSONALITY.

CHARACTERIZED CHIEFLY BY AMBULATORY AUTOMATISM AND AMNESIA WITH RESULTS OF HYPNOTIC EXPERIMENTS.*

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All of the cases of alternating personality probably are of sufficient interest and value in the study of hysteria to merit report. This account presents a picture perhaps only slightly different from some already recorded. The patient is possessed with a neuropathic constitution and presents a group of the stigmata of hysteria including the dissociation of the personality. The experiments serve to indicate a close analogy between the hypnotic state and the hysterical lapses. On the theory that all cases of dissociated personality occur in hysterical patients, and in view of the above analogy, we may be easily led to believe that all the departures from the primary or normal personality are partly self-induced hypnotic states. The most prominent features in the case are the ambulatory automatism and amnesia, both common characteristics of these peculiar and interesting hystericals. The usual, and what seems to be the patient's normal, personality we have designated as the primary state and the epochs of changed personality or the new condition the secondary state. In the abstract the case is as follows:

Patient.—Male, aged 29, white; electrician, American, average height, weight 163, and fairly well nourished.

History.—This was negative up to 1898 when he contracted typhoid fever while in the Spanish-American war. Since that time had had periodical (annual) attacks of "tender spine," and hyperesthesia along the left side involving also the left upper and lower extremities. Patient stated the pain was so intense that it caused a partial paralysis and that each succeeding attack seemed to be worse. The above condition he regarded as the result of the typhoid fever inasmuch as these attacks came on him each year about the same time he had the fever. Electrical tests negative.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

Examination.—Physical examination revealed normal conditions excepting in the nervous system. He complained at times of feeling nervous. Deep and superficial reflexes all heightened and very prompt. Pupils variable, mydriatic most of the time, equal and reacted promptly to light and accommodation. Tactile sense was blunted on the entire left side and more deeply so in certain areas. Right side was normal. Allochiria was well marked on the back. Partial analgesia on the left side only. The thermic sense was considerably modified on the left side. He complained of paresthesias such as tingling, formication, and itching over the upper part of the chest anteriorly and posteriorly, also over the shoulders. A peculiar tender area extended from the base of the occiput medial down to the fourth cervical spinous process and over the left transverse process of the second cervical vertebra just below and anterior to the tip of the mastoid process on the left side. Pressure over this zone gave him an intense frontal headache. There was a marked superficial tenderness at these points, and he also had a marked tenderness over the left midpoint between the anterior superior spine of the ilium and the spine of the pubes.

The sensory symptoms were all variable. From time to time various symptoms had been presented that could be placed on the list of hysterical stigmata. The most prominent of these was his extreme suggestibility. This condition had been present at nearly all times and when hypnotic tests were desirable it facilitated them greatly. Variable anesthesia and other sensory phenomena were to be found at certain times. Abulia was a prominent characteristic in his case. There was a pronounced craving for attention and the patient would always see to it that he was not missed in the regular visits of the physician. Hypochondria was fairly well marked.

Patient's Story.—"In the fall of 1901 I was collecting for the Lynchburg Street Railway Co. One evening I was coming back alone from the country where I had been collecting money for some arc lights and motor-power and was crossing the bridge near home when I was struck a fierce blow on the head from behind. I did not remember anything more for about four days when I came to myself sitting up in bed and the first thing I did was to make a move for my pocket that had my money in it. The money had not been taken from me, however, but I had lost my watch and my own pocketbook with a small amount of money in it. I was afterward told that one of the conductors on the street railway saw me lying on the bridge and thought I was drunk and carried me back home. The doctors said I was struck with a sand bag. I was bruised on the back of the head. My head was so sore I couldn't touch it, and for about a month I did not go out of the house. From that time all that winter I was conscious, at times, of not knowing what I was doing, just at intervals probably lasting from fifteen minutes to half an hour.

"In the spring of 1902, I purchased a suit of clothes on Thursday. On Sunday morning when I got up to dress I found two suits of clothes exactly alike, afterward finding out I had bought the second suit of clothes not knowing what I was doing. I took it back and told the clerk in the store and he said when I was in there he thought I acted kind of funny. He asked me what I wanted and I selected a suit just like the one I had purchased a day or two previous. I commenced to get bad after that, that is, of getting a day, maybe two days which would seem like perfect blanks, to me. My home people didn't know what to make of me, and I told them that at times I didn't know what I was doing. I believed that blow on the head did most of the harm.

"In May, 1902, there was an excursion down to Norfolk, and I told my parents I was going to take that trip and go by boat to Baltimore and go to Johns Hopkins and seek a physician, in the hope that he might do something for me. I did not receive much attention from the physicians I consulted in Baltimore. This discouraged me. I sent word home that I would return the following week by the same route I had taken to Baltimore. However, at this time I lost consciousness of myself and when I came to, found myself in London, England. I didn't know where in the world I was and was very much frightened. On inquiry I found that I was in London, I didn't know whether I was dreaming or what had happened. I wandered around London and afterward found I was in Whitechapel. I wandered over on Commercial Road which is the main thoroughfare leading to the docks. Here I found a lodging house where I stayed over night and wrote a letter home. They would never show me the letter and that was the only time they heard from me while I was away. How I got across the water to London is something I have never been able to tell. I tried to find out but I never could. I tried every ship that came from Boston, New York, Baltimore and Norfolk, giving them my name and description, but could gain no information.

"The last thing I remember in London was being down by the old Tower, and the next time and place I realized anything was about two weeks later in Capetown, South Africa, and how I got there I don't know. Here I was more frightened than ever. I didn't have any money and was so far away from home. I secured employment as timekeeper for a contractor and went up to Johannesburg, about 250 miles over in Central Africa. Most of the time here I did not realize, yet I must have carried out my work daily as there was no complaint. At the end of two months I had about $225 which I thought was enough to take me home. I went to Capetown, got a vessel for London, sailed from London to Boston, and from there on home. I reached home in November, 1902, in such a condition that my mother couldn't recognize me. I got along very well without much loss of memory until the year 1905. At this time my mind was very clear, with the exception of an almost constant headache.

"In the meantime I had married and moved to Canton, Ohio, where I got along first rate until the above mentioned date, December, 1905. At this time, I again showed some loss of memory for certain periods. I was taken to a sanitarium in Columbus, remained there a short time, and was discharged as recovered. Secured employment in Columbus, operating an electric crane. I worked there one week, when I felt an attack coming on. I tried to wear it off; thought I could work it off. I left my home on Tuesday morning—this was in April—and the last thing I remember I was crossing Neil Avenue, which is about half a mile from the shop. The foreman of the shop told my wife that I went to work on the crane, operated it for about 20 minutes, came down and told him that my head was hurting so that I would have to go home. However, I came to myself in the afternoon of the same day at Newark, Ohio, not knowing where I was or how I got there. I telegraphed my people, and my brother immediately made arrangements for my commitment to this hospital."

First Attack at Hospital.—At about 8 p. m., May 22, 1906, the patient was standing on the veranda of the hospital, watching the fire department go by; soon after he turned and came into the parlor. In a few minutes he went to the interne's room and sat down on the bed, saying, "Oh dear, doctor, I am feeling so bad," and immediately fixed his eyes with a continuous stare and did not notice anything around him. His attention could not be gained by asking him questions, but after sitting thus for about ten minutes, the physician touched his wrist to feel his pulse, and he awakened with a start, looking up naturally and smiling. His pulse at the time was 102. The doctor resumed his reading, and the patient immediately returned to the stuporous condition. In about five minutes, with an offended manner, he got up and precipitously left the room, going to the west veranda. After a little while he was found sitting with his head in his hands. In an endeavor to open a conversation, all that could be obtained was, "Oh, my head hurts me so." At this time the nurse came out and told the patient it was time to retire, and in a moment he arose and walked to the parlor sofa throwing himself down. When again told it was bedtime, he got up, walked up and down the side hall, then entered his room and sat down on his chair and looked steadily out of the window. Later, the interne and nurse again enjoined him that he would better go to bed and began to take off some of his clothing in which he later assisted, but on getting him to bed, instead of lying down, he sat in a semi-recumbent position, leaning against the head of the bed, with his hands on his head. Just before getting into bed he said, "Where is Mattie?" (his wife's name) and in bed he said, "Oh, my head hurts so, I can't think." The interne revisited his room many times during the evening, always finding him with a fixed troubled look. He arose at 5 o'clock, walked into the west parlor, immediately sat down with his head in his hands, and with an expression of extreme dejection, entirely foreign to his usual smiling countenance. This position was not changed until the nurse asked him if he wanted to eat, which he seemed to understand perfectly, but would not speak, simply shaking his head. During the meal he walked into the reception room and leaned his chair back against the wall, sitting there with bowed head and strained expression till about 9 o'clock, then he suddenly awoke and was startled till he saw where he was. He then went to the nurse in an extremely nervous condition and asked for something to quiet his nerves. On being questioned concerning his spell, he said that he did not remember a thing after he was standing on the east veranda the evening before. He felt awfully tired and worn out as though, as he said, he "had done three weeks' work in one day," but his head did not ache so badly as it did the evening before.

Second Attack at Hospital.—In the evening of July 6, the physician asked how he was feeling, to which he replied, "Not very well, doctor, my head hurts me so." This was about 5:30 p. m. After taking a seat in one of the rooms, he was spoken to by one of the patients to whom he made no reply. He was then noticed to walk about the cottage till almost bedtime. He then went to his room, where he was found sitting on a chair peering steadily out of the window into the darkness. He had a very troubled, worried and sullen look on his face, and when the nurse touched him on the arm, acted as though he were angry. On being repeatedly told by the nurse and interne that it was bedtime, he did not move or take any notice of them, whereon he was undressed and put to bed without much resistance. He did not lie down, but sat up in a half reclining posture, which position he maintained till 10 p. m., when the nurses and interne were in the room, and at which time he suddenly awoke as if from a deep sleep. From the time we put him to bed till he came to himself, he had a heavy frown on his face, and kept slowly winking his eyes and gazing steadily at the foot of the bed. When he awoke, he said, "I am so tired," and then lay down on his pillow and was soon fast asleep. The next morning he was very weak and tired, and remembered nothing of the interval of time between 5:30 and 10 p. m. the evening before.

Third Attack at Hospital.—Patient was feeling in fine condition, July 22, until he had a little difficulty with one of the patients, which made him very nervous and out of sorts. He kept gradually feeling worse and his headache increased until on Monday, July 23, 1:15 p. m., the attack began. He was in his room staring out of the window, with a troubled look on his face. His pupils reacted sluggishly to light and his eyes were more or less fixed and staring. The facial expression was anxious and some times depressed, and he wore a frown continually. He did not seem to hear what was said to him and yet when told in a commanding voice to protrude his tongue, he did so, also stood up and walked down the hall and out the door; after this, he did not obey any commands. He would not answer any questions or give the least hint of a facial expression that would lead one to believe that he understood what was said to him. His leg and arm reflexes were exaggerated, especially the left side. He had a very noticeable tremor of his left leg. After the above observations were made, he was conducted out of the cottage to the grounds and allowed to go wherever he chose. He started direct for the gate leading to the street. He had his hands in his pockets, head down and eyes resting on the ground a few feet in front of him. He walked fairly rapidly, paying no attention to walks or driveway, but cutting straight across to the gate. He was followed closely, yet he took no notice of anybody, and did not seem to know anybody was around. On coming to the street, he turned and walked up it a short distance, and then on an intersecting street for one-half block. The physician called to him, but he would not stop. On catching up with him and taking him by the arm, without any particular resistance he was turned and started back. On reaching Broad Street, a street car was coming and he acted as though he wished to get on, and when the car stopped would have done so, had he not been prevented by his attendant. He wandered around on the street and then he was started back to the hospital, but he would not walk far till he would turn around and go towards the gate.

He would keep perfectly still when photographed; did not eat any supper, and sat for a while in his room where he came to himself at 6:10 p. m., feeling very much the worse for his experience. He asked for something to quiet his nerves. He ate a light lunch and went to bed, but did not rest well all night and felt very bad, weak and depressed all the next day, (Tuesday, July 24), and came in the office after supper, stating that he was trying to fight off a spell and asked to be allowed to stay up awhile till he overcame it, but at 9:10 p. m., he passed into his secondary state with a very deep frown on his face, just as though he was angry. On being advised to go to bed, he got up, and in an offended manner went to another part of the hospital, but would not talk, answer any questions, or pay any attention to anything we said to him. We kept telling him to go to bed, whereon he went into the parlor and sat down. The nurse took him out of the parlor and put him in his room, where he seated himself on his chair, and at 10:20 p. m. he was persuaded to go to bed. He partly undressed himself, being coaxed and commanded at times to do so. The interne was in to see him ten minutes later (10:30) and he had his head and shoulders propped up and steadily gazed at the foot of the bed. He remained in this condition all night, and in the morning dressed himself as usual, but did not eat any breakfast. His medicine was brought to him in his room, but he refused to take it. A few minutes later he came to himself, with a little start and jump. He felt very bad, but not nearly as much so as he did the day previous after the preceding attack.

Attack Occurring July 30, 1906.—In the afternoon of July 30, the patient repeatedly complained to the interne of feeling so weak and done up. Just after supper he asked for something to quiet his nerves. He said that he had a peculiar headache this afternoon, and felt as if everything in his body was trying to get into his head, and it felt so awfully sore. In the evening at 8 p. m., he came into the office and without saying a word, seated himself in a chair with his head resting on his right hand, his elbow on an arm of the chair, and his eyes fixed on the floor. When spoken to he did not look up or make any reply. He soon got up and walked out of the office, turned down the hall and went to his room. His face was deeply flushed, and he had an offended manner. He was observed in his room a few moments later (8:15 p. m.) seated on a chair with his head on the bed, and both hands holding the back of his head. He could not be roused or made to give any response whatever. A little later (8:30) the physician found him lying on the bed with his head and shoulders propped up high, eyes partly open and fixed. On commanding him to protrude his tongue, the scowl on his face grew deeper. He muttered that his head hurt him so badly. At 9 p. m. he had not changed his position and would not undress himself, but his apparent anger would increase when he was urged to do something. At 9:30 the interne and night watch went into his room and he was still in the same position, but a little more restless than usual, rubbing his hands over his head, sighing and exclaiming alternately from time to time, "Oh, dear," and "My head hurts so."

At 9:45 p. m. the physician found him sitting in one of the windows, looking steadily out and downward through the window. He refused to turn his head even when some force was used. He sat there for quite a while and then suddenly came into the interne's room and, sitting down on the bed, with his head in his hands, steadily gazed at the floor. He soon threw himself over on the bed, holding his head as if in intense agony, and exclaiming, "Oh dear." He groaned more or less while he was lying on the bed. Soon he muttered something, and on being asked several times what he said, he replied, "I want some smelling salts." On holding the cork from a bottle of aqua ammonia under his nose while he lay on the bed, he awakened with a sudden start, and looked at the physician and smiled, and said, "Oh, what a relief; please let me smell it again." A moment later he said that smell seemed to take an awful weight off his head. He said his head felt as clear as a crystal. He went to bed at 1:30 a. m. and said he was feeling fine, except that he was very weak.

First Hypnotic Experiment.—On the evening of September 20 the patient came into my office saying he felt quite miserable, suffering intensely with his head and feeling very nervous. Felt certain that he was about to pass into one of his states of secondary consciousness. I suggested that I hypnotize him, to which he agreed, stating that he had been hypnotized once by a professor. This was about 7 o'clock in the evening. I made the trial of hypnotism and succeeded in a very short time in having him under my control. I made several tests which assured me that he was hypnotized. At this time he was bearing an expression of discomfort and frowning. I suggested that he throw off that scornful expression and look pleasant and agreeable. He did this immediately. I also suggested that he was in a much better physical condition, and was not suffering any discomfort or pain, and judging from his expression, this seemed to be realized by the patient. I directed him to go to his room and take off his clothes and go to bed. This he did without any opposition whatever, carrying out every suggestion just as I gave it. After getting into bed, I suggested that he sleep soundly until 5 o'clock and then awaken and feel first rate and go to his breakfast. Our experiment, however, fell short somewhat in all this. He slept beautifully until nearly 2 o'clock, at which time he awakened and sat up in bed quite himself again. He soon began feeling bad, and at 4 o'clock got up and dressed. Later in the morning, at the regular getting-up time, 5 o'clock, he helped with the usual duties about the hospital, went to his breakfast, and about 6:30, as he was on his way down to the bathroom, lost all account of everything, and the secondary state was again on him. On visiting him about 7:30 I found him lying on the bed, looking very irritable and cross and displeased. At this time he would not talk with me, but clearly manifested that he didn't want anybody to bother him. I endeavored to engage him in conversation, but failed. I tried to get him up and have him move around, but failed in this. He would do nothing but lie on the bed, apparently angry about something. I didn't see him again until 11 o'clock, at which time he was sitting up in the chair in his room with his cap on, and looking in a staring manner out of the window. Seeing him with his cap on, I asked him if he wanted to go out, when this conversation took place:

"Do you want to go out?"

"I don't want to go with you."

"Do you know who I am?"

"Yes, I do." (Very cross.)

"Who is talking to you?"

"I know you all right."

"Well, who am I? What is my name?"

"I wouldn't be apt to forget you; it's Jim Fulton, and I know you well enough; you might as well go on and let me alone."

Seeing that he believed me to be some other individual, and that he was not friendly to this person, I didn't insist on talking with him much or doing much for him under this condition. He continued in this state, at times walking about in the cottage, trying to open the different doors, and seemingly wanting very much to get out and go somewhere. After failing to get out of the door, he would go to the window and look longingly. This lasted until 12:05 at noon, September 21, when he came to himself again, feeling very nervous and weak. Patient all this time stated that he didn't remember anything during the six hours of the lapse. When told of his irritable mood and mistaken notion concerning his physician, he regretted it very much and seemed to feel bad about it. On further investigation I found that Jim, the man referred to above, was a man of the patient's acquaintance, and was not very friendly to the patient, but repeatedly circulated stories reflecting on him. This accounts for the patient's irritable manner in my presence, while taking me to be this man.

Second Hypnotic Experiment.—Patient, with consent, was easily hypnotized with purpose of securing some history of some of his lapses. We know that in his primary state of consciousness he was entirely unable to recall anything that occurred during any period of secondary consciousness. Therefore, thinking that a state of hypnosis might aid me in adding the missing links of his life, I made the experiment with that end in view. As recorded above, we know that concerning his sojourn from Baltimore to London he knows nothing. Not a single event could be recalled. The same is true of his journey from London to Cape Town, Africa. Under the state of hypnosis he was enabled to recall nearly everything that occurred during that particular lapse or "spell." I learned that he traveled from Baltimore to New York by rail, going over the Pennsylvania Railroad. At New York he paid $55 for a ticket to London, making the trip in a fast vessel in six and one-half days. He traveled under the assumed name of Frederick Fields. He also revealed that after a few experiences in London he secured employment on a merchant vessel bound for Cape Town, Africa. On this vessel he labored in the kitchen and elsewhere. This much knowledge gained from him hypnotized satisfied me as to the success of the experiment, so I awakened him.

The ease with which the patient gave himself up to hypnotism and the very marked resemblance in expression, demeanor, etc., while in the hypnotic state to that while in the secondary conscious state was very striking. The chief difference, however, existed in the fact that while hypnotized he was amenable to suggestion and in the state of secondary consciousness he as a rule was not so. After coming out from the hypnotic state he felt the same tiredness and exhaustion he experienced after one of his periods in the state of secondary consciousness. Because of these facts I am led to suspect that the hypnotic state is closely analogous to the conditions of the dissociation of the personality.

The patient is still under my observation and has not had any disturbance in the field of consciousness since November, 1907, and the stigmata, excepting the abulia and suggestibility, have disappeared.

We regard the condition of the patient as improved only, and so long as the abulia and suggestibility remain we may look for a return of the dissociated personality. He is now employed as the hospital photographer and is getting along with ease and comfort, and this may be a factor in keeping him as well as he is at the present.

DISCUSSION.

DR. EDWARD P. ANGELL, Rochester N. Y., asked Dr. Gaver if he had looked up the data given by this patient in regard to his trips to London and elsewhere. Such statements were frequently the results of a dream-state represented by the mind as a fact. Dr. Angell added that fact and fiction were often alike to the patient.

DR. ALFRED GORDON, Philadelphia, said that he had reported, under the title of "Double Ego," the case of a young lady who told him that she had taken a trip to Europe and described, with such minute precision as to be almost convincing, the beautiful landscapes that she had observed in Switzerland and Italy. Yet Dr. Gordon doubted the story, and investigation proved it false. On another occasion, among many others, the patient told Dr. Gordon that she had been invited to play a certain rôle in a theater; that she had done so and met great success; that everybody had applauded her, and that many managers had invited her to appear in this rôle in different places. Inquiry proved this story also untrue; it was simply a case of subconscious state in a hysteric person with autosuggestions. Dr. Gordon explained that the patient had suffered from distinct attacks of hysteria simulating epilepsy; that she was accustomed to spend hours in reading, especially novels of the ten-cent order, containing wonderful descriptions and thrilling adventures, which were a factor in the suggestion which induced her condition.

Dr. W. T. Williamson, Portland, Ore., said that the likelihood of subjective error was sometimes in point, but it would not cover all such cases. Dr. Williamson cited a case in Council Bluffs. A young man left home to go down-town, and disappeared and was not heard of for several months. At length his parents got a cablegram from Australia from the young man, stating that he was there and wanted money to get home. The father and mother met the young man at Seattle, brought him to Portland and placed him in Dr. Williamson's care. Dr. Williamson said that though he kept the young man under observation for months, he never found anything that suggested fraud. At Seattle the patient's father made investigations which corroborated the young man's story. Dr. Williamson believed that these facts could not be explained by the hypothesis of dream-state, subconscious state, or fraud.

Dr. George A. Moleen, Denver, asked whether this subject had been afflicted at all with epileptic attacks. He remarked that he had seen a number of cases of postepileptic amnesia; one recently in which the patient's actions were automatic, during an attack of amnesia lasting for six hours. A number of cases in Denver had been under the observation of several neurologists, some of the attacks being of several months' duration; but no history of epilepsy was obtainable. Dr. Moleen said that he would like to know in all cases how many of the patients were afflicted with epilepsy.

Dr. G. P. Edwards, Nashville, believed that the diagnosis should be considered more carefully. He said that he had always looked on these patients as paranoiacs, or afflicted with periodical or circulatory insanity rather than with hysteria.

Dr. Gaver said that at the office of the ship company he had found that a man had travelled at the date mentioned by the patient, under the name of Fred Fields, the assumed name the patient had given while in the hypnotic state. Dr. Gaver could not give further corroboration except what was obtained through hypnotism. It seemed to him that if the patient's statements had not been true, he probably would not have been able to corroborate the story as he had told it while in the primary personality or normal state. The hypnotism, therefore, would have been the means of proving the fallacy of his story if it had been untrue. Dr. Gaver said that he had never seriously considered the case as one of epilepsy, not having observed any epileptic symptoms at any time. In substantiation of the diagnosis of hysteria, Dr. Gaver called attention to the fact that the case presented most of the major symptoms of hysteria, namely, marked suggestibility, abulia, breaking up of the field of consciousness, and very marked sensory disturbances, such as anesthesia and paresthesia. He did not regard the dual personality cases as epileptic or as the equivalent of epilepsy.

Serum Diagnosis of Syphilis.—Plaut, Heuck and Rossi, in the *Riv. di Patol. nerv.*, December 1907, xii, 12, conclude from their studies of the precipitation test of Fornet and his collaborators, (*Deutsche med. Wchnschr.*, 1907, No. 41) that this test can not be satisfactorily substituted for the deviation of complement test of Wassermann in the serum diagnosis of syphilis. They obtained the same reaction of precipitation by contact between the sera of syphilitics and paretics as well as between that of syphilitics and normal persons and also between two normal non-syphilitic sera. They do not deny the possibility of such a specific reaction under favorable conditions, but do not consider it reliable.

THE ATTITUDE OF NEUROLOGISTS TOWARD ELECTROTHERAPY.*

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The history of electrotherapy reaches back many years, a hundred or more. It includes a long list of names of those prominently connected therewith as investigators and writers, some of them very eminent. The investigations show at all periods much scientific effort, to say nothing of the voluminous records of enthusiasts that have no actual scientific value. The modern treatise on electrotherapy begins, much as its predecessors have, with a recital of the physical, physiologic and chemical effects of electric currents, but fails, as its predecessors also have, to establish any important relation between these effects and the therapeutic results claimed from the application of electricity to the body in various ways. The only probable exceptions to this statement are certain well-understood surgical results and some of the results of phototherapy, so-called. The body of the profession has not only been open to conviction, but it has anxiously, I may say, awaited convincing evidence that this agent would eventually yield certain specific or special therapeutic properties. So far it has not done so except in the limited field above indicated. This at least is the verdict of the great majority of those who are best prepared to render one.

The neurologist can not avoid the responsibility of an opinion in this matter, although he realizes that there is still a considerable contingent of the electropathically inclined who are anxious to contest his conclusions. A strenuous argument on therapeutic questions is rapidly becoming a thing of the past, and I have no desire to engage in one. My purpose is to state and to briefly explain what I believe to be the attitude of neurologists generally toward the use of electricity in those diseases which they are called on to treat: Neurologists more than any other class of practitioners are appealed to both by the laity and by other physicians for an expression of opinion in this matter because it is naturally supposed that they are the best prepared for one, and I think it must be conceded that they are. In the first place, the most numerous claims for electrotherapy have been made in the treatment of neuropathic diseases; second, there are few neurologists, especially among those who have practiced for twenty years or more, who have not used electricity a good deal; third, and most important, only those capable of making reliable diagnostic distinctions in neuropathic diseases are as a class capable of reliable opinions concerning the therapeutic measures to be addressed to these diseases.

The use of electricity in the treatment of neuropathic diseases does not in any instance rest on a scientific basis. It is as purely empirical, in this class of diseases at least, as any of the remedies employed in medicine. This means that the results attributed to it and the manner in which they are obtained are simply matters of opinion—always an unreliable kind of testimony, and perhaps never more so than in questions of therapeutics. For example, one observer relates remarkable effects from a battery from which no current issues: another, admitting the psychic origin of certain effects, prefers to produce them by the sensation of the passing current.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

To obtain certain results one insists on the galvanic, another the faradic and another the sinusoidal; another is confining himself to the static machine and getting more cures than he can account for; another is enthusiastic over electrophototherapy only; another has seen the most astonishing results from Arsonvalism.

Any one who has seriously and carefully used any kind of current in the treatment of disease for any length of time can truthfully testify that he has seen "good results," and even remarkable and astonishing things therapeutical. If he is a diagnostician he must soon discover that at least many of these results are psychic in their origin. He soon realizes, furthermore, that even if all the conspicuous results are not psychic he nor no one else has any means of proving the fact scientifically. In short, we know beyond question that many of the results are purely psychic, and we have no means of knowing that they are not all psychic. It will be readily seen that the whole argument reduces itself to a consideration of this fact.

Naturally, the neurologist with a growing diagnostic capability in neuropathic maladies has been first among practitioners to discern the psychic possibilities of certain remedies. He knows also what are the most convenient ones to use for this purpose and the proper places to apply them. He knows better than any one else, for example, where to use hypnotic suggestion and where electricity in order to test their greatest value, which means that he also knows where these remedies are weak or where harmful.

In the more serious and intelligent treatment of many neuropathic conditions we must rely on persuasion and education, i. e., persuasion in its technical sense and education in its broad sense. In doing this we strive for a deeper hold on our patient's ego, so to speak; a reliable footing in his confidence that can not be maintained by therapeutic clap-trap. Sometimes suggestive measures — electricity, for example — assist us in breaking into certain difficult psychic situations. For this purpose it is at times a convenience. But too often it is an inconvenience. The patient's cognizance of these things, i. e., of agents possessed of supposed special or unusual therapeutic power, is a hindrance, an inconvenience to the practitioner who is trying to reach an ultimate, a reliable therapeutic basis for a certain large class of patients. We can not teach these patients to rely on the simple hygienic measures in which they must eventually find security until we have entirely overcome their yearnings for therapeutic specialties. This is what we mean by the inconvenience of electricity, and not merely the inconvenience due to the time and patience consumed in handling electrical apparatus.

In view of the foregoing the futility of attempting to formulate rules for the use of electricity in this particular field is evident. Some will continue to use it extensively and find a satisfaction in doing so. One practitioner will write four times as many prescriptions as his next-door neighbor and intimate friend in professional life, but he can not convince this friend that it is commercially profitable or scientifically necessary to follow his example. Our therapeutic tastes and habits still vary with our temperaments and training, but we are learning to be very broad and charitable about questions of "practice" and scientifically more accurate. In short, we are all awakening to the great rôle that suggestion plays in the whole field of therapeutics and learning how to apply the gauges that are furnished by it.

Twenty years or more ago marked a period of great improvement in electrical apparatus. There began to appear perfected static machines, better and more convenient galvanic and faradic batteries, and appliances for controlling house currents, milliamperemeters and "normal" electrodes for measuring dosage, etc. With all this there was an increased interest and decided activity in the use of electricity, and many believed that an important renaissance in electrotherapy had begun. At that time neurologists quite generally began to equip themselves for a new trial, as it were, a scientific test, of electricity. Their verdict at the present time is founded on this kind of a trial.

In closing I wish to merely allude to the diagnostic use of electricity for the purpose of reminding my hearers, I hope unnecessarily, that neurologists as a class have not slighted any important known function of electricity in practice. The diagnostic value of it is appreciated only by neurologists, or those actually capable of diagnostic refinements in neuropathic diseases, and it is the only practical scientific use that has been made of it in medicine proper, and this, I repeat, is to the credit of neurologists alone, and they must also determine ultimately the therapeutic values of electricity in their particular line of practice.

DISCUSSION.

Dr. C. Eugene Riggs, St. Paul, said that commercialism had placed its stamp on the use of electricity; that manufacturers had flooded the country with various forms of apparatus, and that sometimes doctors had been unfortunate in their handling of this remedy, especially when they had placed it in the hands of incompetent nurses and ill-informed internes. As a consequence reliable data could not be expected regarding electrotherapy. Dr. Riggs said that nobody could question the value of cataphoresis in the relief of pain or of galvanism in the relief of neuralgias, or of the high-frequency current in the relief of pain and high arterial tension. Dr. Riggs said that electricity had a real tonic and sometimes a sedative influence.

Dr. William Benham Snow, New York, took an attitude opposite to that of Dr. Fry and said that Dr. Fry's premises were not based on scientific recognition of the physical or physiologic action of any of the electric currents. Dr. Fry had assumed that the effects of these currents were purely the result of suggestion. Dr. Snow said that if the current or the application of the current would remove pain, swelling, tenderness, and the lesion itself, in the case of a severe sprained ankle or wrist, it was something more than any suggestion that the personality of the physician could effect. Dr. Snow said that he knew from a long experience in the intelligent use of the static current that its great field was in its action on congested processes. He added that it must be understood and would be recognized in the future, if not to-day, that the treatment of nervous diseases was the treatment of inflammatory processes. Reflex neuroses, he said, unquestionably had their origin in, and were relieved by the relief of these inflammatory conditions. Dr. Snow said that he was effecting these results regularly in cases of neurasthenia, hysteria, neuritis and nervous diseases associated with every sort of inflammatory process; and these results were certain; there was no such things as failure in the treatment of localized uncomplicated peripheral neuritis or an inflamed joint, with the static current in the hands of an operator who was capable of applying it.

Dr. Charles K. Mills, Philadelphia, said that electricity in medicine had a field of usefulness, both in diagnosis and in therapeutics; but he thought that field a limited one, and believed that a definition of the uses and limitations of the agent would be most serviceable. Dr. Mills said that after many years of observation he was convinced that at times he was able to clinch the differential diagnosis of a peripheral from a central palsy, and perhaps to determine certain facts with regard to organs out of sight, by painful effects of the use of electric currents. Dr. Mills believed that electricity was largely a suggestive treatment, but not merely a method of treatment by suggestion. He believed with Dr. Mitchell that the skilful use of the faradic current in the treatment of patients suffering from neurasthenic conditions might prove useful by serving as a passive exercise, and in all probability by improving the condition of the blood. This covered much of its value even outside of neurasthenia. Dr. Mills said that neuritis, especially the chronic forms of it, could be treated with some advantage by a galvanic current of a moderate number of milliamperes, but he did not think this treatment beneficial in a wholesale way. Dr. Mills believed that pain not due to neuritis could also be relieved, not only by the currents of high-frequency, but by currents of the old-fashioned sort used skilfully. Some other beneficial results could be secured, as for instance in states of anemia and in some forms of indigestion. To make a sweeping assertion that the whole subject of these diseases of the nervous system and their treatment might be comprehended by regarding them as inflammatory with reflex results, was misleading. Dr. Mills believed that static electricity had some use. He stated that there was a good electrotherapeutic plant and an opportunity to test its value at the University of Pennsylvania. He said that it probably did some good in certain conditions of anemia and in a few other affections. Dr. Mills said that the value of electricity in medicine should be acknowledged but not exaggerated.

Dr. Wharton Sinkler, Philadelphia, thought that in many cases the effects of electricity were psychic, especially in cases of neurasthenia, hysteria, spinal tenderness, etc., but believed nevertheless that electricity had a distinct place in the treatment of various nervous diseases, more especially in the local palsies, facial paralyses, local neuritis and other conditions. He had recently seen a man with musculospinal palsy, the result of carrying a load of trees on his shoulder and arm. He had complete wrist-drop and palsy of the extensors of his fingers for eight weeks. After five days of faradism he was able to extend his wrist and fingers. That result was not psychic. Therefore, Dr. Sinkler believed that the proper use of certain forms of electricity was a remedy in many conditions.

Dr. Charles R. Ball, St. Paul, reported the case of a patient who had received a fall in a runaway and evidently had hemorrhage of the spinal cord in the cervical enlargement. He had something of the nature of the so-called Brown-Séquard symptom-complex paralysis of motion on one side and of sensation on the other. This man last winter had been brought into the hospital after having lain on his back three years, unable to feed himself and absolutely helpless. Yet in four to five months' time, with daily treatment by means of a simple faradic battery, the man had been put on his feet and was now able to walk several miles without sitting down, could feed himself and partially dress himself. Dr. Ball said that perhaps that result could just as well have been obtained by other means, but it seemed to him doubtful if any form of massage could so have selected and separated the muscles atrophied from disuse and from disease and have developed the muscles still capable of development as did electricity. It seemed to Dr. Ball that such results as that proved electricity an important factor in the medical armamentarium that should not be neglected. Another case cited by Dr. Ball was that of a man 75 years old, stupid and feeble-minded, with cortical degeneration, and blood pressure at 180. He had been a hack-driver but was entirely unable to follow his occupation, because of mental dulness. With treatment by autocondensation every other day, inside of ten days this man became bright, alert and natural; his blood pressure went down from 180 to 165. Dr. Ball believed that to be electrical nihilists would deprive the profession of the use of an important therapeutic agent, valuable where intelligently applied in many ailments.

Dr. Frank R. Fry, St. Louis, believed that the mere citation of individual cases would not have much weight without comparison with control experience and consideration of the different ways of looking at results by different persons. In the treatment of rest-cure cases, Dr. Fry said that he had formerly been accustomed to use the faradic battery, but he now found that he could get very good effects from brush massage. He had written his paper, not to deny the possibility of obtaining results from electricity, but to suggest the advantage of occasionally recasting current ideas on the subject.

THE SERUM TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS,

BASED ON A SERIES OF FORTY CONSECUTIVE CASES.[*]

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BOSTON.

This report is based on a series of forty consecutive cases of epidemic cerebrospinal meningitis treated with Dr. Flexner's antimeningitis serum. All cases in which the *Diplococcus intracellularis* was found in the cerebrospinal fluid, without regard to the type of case or stage of disease, are included in the series. Sixteen cases occurred in the Children's Hospital in the service of Dr. Rotch, eight cases occurred in various other hospitals in cities and towns of Massachusetts, and sixteen cases occurred in private practice.

CONDITIONS OF ADMINISTRATION.

The antiserum was administered in all cases by injection into the cerebrospinal canal according to the technic recommended by Dr. Flexner and described in a previous publication.[1] As soon as a suspected case was reported to me, lumbar puncture was at once performed. If the cerebrospinal fluid obtained was cloudy, the antiserum was injected at once, without waiting for the bacteriologic examination of the cerebrospinal fluid, and if fluid was clear, no antiserum was given until subsequent examination revealed the presence of the *D. intracellularis.*

Thus in some cases of meningitis in which other organisms, pneumococcus or streptococcus, were subsequently found, the patients were given one injection of antiserum. In none of them did its use appear to do any harm. These cases are, of course, not included in the series, but are mentioned in order to bring forward the point that I believe the advantages to be gained by the earliest possible use of the antiserum in epidemic cerebrospinal meningitis are great enough to outweigh any possible disadvantage from its use in other forms, and that it should be used at once in all cases in which the patients have cloudy cerebrospinal fluid.

In those cases in which a rapid and marked improvement in the symptoms occurred after the first injection, accompanied by a permanent fall of temperature to the normal, no further injection was given. In those cases in which this did not occur, the injections were repeated daily until nervous and subjective symptoms were completely relieved and the temperature had reached the normal, or until four doses had been given. In resistant or relapsing cases further doses were given according to circumstances. The routine dose was 30 c.c.; in many instances larger doses were given, the maximum being 45 c.c. In some instances, when the amount of fluid obtained was small, and in all instances when too great an increase of intradural pressure was feared, smaller amounts were injected, the minimal being 10 c.c. This was the general routine; there were some exceptions.

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[*] Read at the Annual Meeting of the American Pediatric Society, Delaware Water Gap, Pa., May 25-27, 1908. The discussion on this paper and on the paper of Dr. Churchill, which follows, will be found under Society Proceedings, this issue.

[1] Boston Med. and Surg. Jour., Feb. 19, 1908.

The serum has been used in forty-five cases of epidemic cerebrospinal meningitis, but cases still pending are not included in the series. Of the forty finished cases nine patients have died and thirty-one have recovered. This is a mortality of 22.5 per cent. and a rate of recovery of 77.5 per cent. Of the thirty-one cases in which the patients recovered, two were left with sequelæ, one being deaf and one both blind and deaf. The recovery was complete in twenty-nine cases, or in 72.5 per cent.

Mortality figures are never of conclusive value, on account of the variations in the mortality rate with various localities, seasons and epidemics. I believe, however, that this low mortality rate is of considerable significance as bearing on the value of the Flexner antiserum. I have collected a number of reports, from various epidemics and hospital records, from which the average mortality appears to be between 70 and 80 per cent. Although in certain epidemics it has been considerably lower than this, it has never fallen nearly so low as in this series of cases.

OBJECTIONS MET.

The significance of these figures as bearing on the value of the antiserum may be objected to on the following ground: That, as the mortality of this disease is known to present wide variations at different times, the present series of cases may represent a particularly mild type of disease prevalent this year in Boston and the surrounding cities and towns. In answer to this objection I would say that clinically the type of disease prevalent this year has not been milder than that which occurs every year sporadically in Boston and its vicinity. It must be remembered also that all types were included in the series, fulminating cases in which the patients were moribund when seen, chronic cases with the patients in the latest stage of exhaustion, and cases in which the patients died of an intercurrent disease while under treatment.

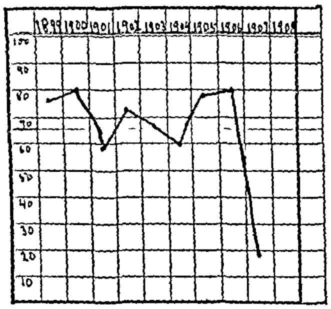

Figure 1.

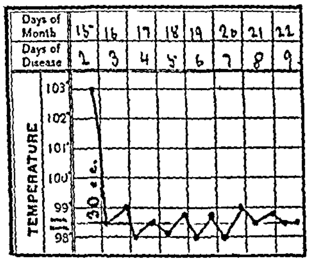

Figure 2.

Fig. 1.—Chart showing death rate from cerebrospinal meningitis at the Children's Hospital from 1899 to 1908.

Fig. 2.—Case 10. Showing temperature curve in aborted case. Early injection of antiserum followed by critical fall of temperature and immediate cessation of all symptoms.

The disease may for convenience be divided into the following types:

1. The well-known fulminating type, in which the progress of the disease was so rapid that the patients when seen were already in an extremely serious condition, with profound coma and weak heart.

2. Severe cases, in which the patients were unconscious, or in violent delirium, with poor general condition.

3. The common type, in which the patients were not unconscious, but very apathetic or in mild delirium, with fairly good general condition when seen.

4. The mild type, in which the patients were perfectly rational, with headache, rigidity, or retraction, and good general condition.

5. The chronic type, in which the patients were seen late in the course of the disease, unconscious, but without fever or active symptoms.

In the present series these types were distributed as follows:

Type.	Cases.	Deaths.
1. Fulminating	3	1
2. Severe	6	2
3. Common	19	1
4. Mild	6	0
5. Late chronic	6	5

BASIS OF COMPARISON.

I have not been able, for purposes of comparison, to collect enough cases treated in Boston and vicinity this year without the antiserum. It is possible, however, to compare the mortality at the Children's Hospital this year under the use of the antiserum with the mortality in other years under other methods of treatment, as sufficient cases have been treated in this hospital each year to afford a basis for such a comparison. While the number of cases treated each year varies, the average yearly number for the last ten years is twenty. This comparison also throws light on the comparative value of the treatment with the antiserum and of other methods.

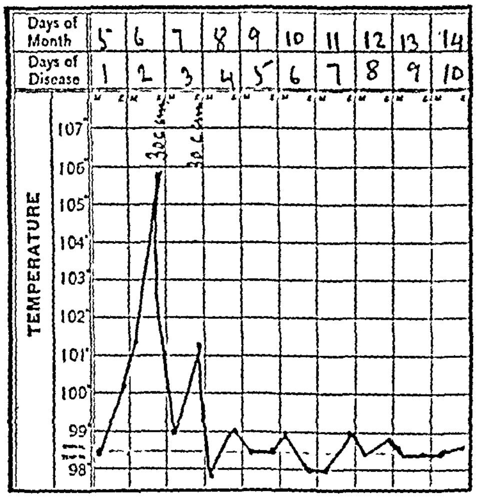

Figure 3.

Fig. 3.—Case 32. Aborted case, with slow onset on the first day, becoming suddenly fulminant on the second day. Injection of antiserum followed by crisis, and the immediate and permanent relief of symptoms.

Up to 1903 the treatment was largely symptomatic. In 1903, 1904 and 1905 lumbar puncture was largely employed as a therapeutic measure. Whenever the withdrawal of the cerebrospinal fluid appeared to be followed by improvement in the patient's condition, it was repeated at short intervals, particularly at those times when the condition showed any tendency to grow worse. It was concluded at that time that repeated lumbar puncture is of some slight value as a therapeutic measure. In 1906 the cases were treated by the frequent or daily administration subcutaneously of diphtheria antitoxin.

In 1907 a vaccine prepared from the *D. intracellularis* was used in connection with the estimation of the op-

TABLE OF RESULTS OF USE OF SERUM IN CEREBROSPINAL MENINGITIS.

No.	Age.	Dates of Injections.	Total Amount Given in c.c.	Maximum Single Dose in c.c.	Day of Disease.	Type of Case.	No.	Immediate Effect.	Duration of Fever.	Temperature Range.	Duration of Symptoms.	Result.
1	3 years.	Nov. 6, 7, 8, 9, 25, 26. . .	105	30	2	Common. . . .	1	Temporary fall of temperature.	23 days. .	99-105	20 days.	Complete recovery.
2	3½ years.	Nov. 11, 15, 16, 17, 25, 26, 27, 28.	200	30	8	Common. . . .	2	Temporary fall of temperature.	16 days. .	99-103	16 days.	Complete recovery.
3	3 years.	Nov. 15, 16.	30	15	14	Chronic stage	3	None.	. . . . . .	. . . . . .	. . . . .	Death.
4	6½ years.	Nov. 28, 29, 30, Dec. 1. .	120	30	3	Severe. . . .	4	Marked relief of symptoms.	6 days. .	99-103.6	3 days.	Complete recovery.
5	1 year. .	Dec. 10, 11, 12, 13, 18, 19, 20, 21.	325	40	21	Chronic stage. .	5	Permanent fall of temperature.	1 day . .	101-102	. . . . .	Death.
6	6 years.	Dec. 17, 18, 20.	90	30	2	Common. . . .	6	Critical fall of temperature to normal; relief of symptoms.	5 days. .	98-101	2 days.	Complete recovery.
7	7 years.	Dec. 22.	30	30	1	Mild.	7	Permanent fall of temperature.	1 day . .	98.4-99.6	4 days.	Complete recovery.
8	10 years.	Dec. 27, 28, 29, 30. . .	100	30	4	Common. . . .	8	Marked relief of symptoms.	5 days. .	98-100	1 day. .	Complete recovery.
9	6 years.	Jan. 6 (twice)	60	30	1	Fulminant. . .	9	Fall of temperature to normal; marked relief of symptoms.	12 days. .	99-100	2 days.	Complete recovery.
10	4 years.	Jan. 15.	30	30	2	Severe.	10	Fall of temperature to normal; marked relief of symptoms.	12 hours.	. . . . . .	1 day. .	Complete recovery.
11	24 years.	Jan. 23, 24, 28, Feb. 3. .	180	45	21	Severe in chronic stage.	11	Slight fall in temperature; no relief of symptoms.	2 days. .	. . . . . .	. . . . .	Death.
12	14 weeks.	Jan. 28, 29, Feb. 2, 8, 10.	90	30	57	Common. . . .	12	Fall of temperature. .	15 days. .	98-100	2 days.	Complete recovery.
13	29 years.	Feb. 6, 7	60	30	8	Mild.	13	None.	4 days. .	99-102	4 days.	Complete recovery.
14	9 years.	Feb. 7, 8, 9, 10	120	30	5	Common. . . .	14	Fall of temperature; marked relief of symptoms.	6 days. . .	99-103	6 days.	Complete recovery.
15	8 years.	Feb. 6, 7, 8, 9, 16, 19, 20, 21.	270	45	5	Common. . . .	15	Fall of temperature; marked relief of symptoms.	16 days. .	98.6-103.8	5 days.	Complete recovery.
16	2 years.	Mar. 1, 2, 3, 5.	120	30	3	Severe.	16	Marked relief of symptoms.	7 days. .	100-102	8 days.	Complete recovery.
17	11 mos. . .	Feb. 25, 26	60	45	7	Chronic.	17	None.	1 day . .	. . . . . .	. . . . .	Recovered; blind and deaf.
18	16 years.	Feb. 20, 21, 23, Mar. 2 .	120	30	18	Common. . . .	18	Slight relief of symptoms; lysis.	8 days. .	. . . . . .	8 days.	Death, bronchopneumonia.
19	3½ years.	Mar. 17, 18, 19, 20. . . .	140	40	11	Common. . . .	19	Temporary collapse. . .	17 days. .	. . . . . .	5 days.	Complete recovery.
20	5 mos. . .	Mar. 11, 13, 17, 19. . . .	45	15	4	Common. . . .	20	Marked improvement in general condition.	10 days. .	. . . . . .	7 days.	Complete recovery.
21	13 years.	Mar. 18.	30	30	29	Chronic moribund.	21	None.	. . . . .	. . . . . .	. . . . .	Death 3 days.
22	16 years.	Mar. 21, 22, 23, 25, Apr. 4.	150	30	5	Common. . . .	22	Fall of temperature; relief of symptoms.	. . . . . .	. . . . . .	. . . . .	Complete recovery.
23	4 years.	Mar. 21, 23.	60	30	50	Chronic, mild. .	23	Improvement in general condition.	. . . . .	. . . . . .	8 days.	Complete recovery.
24	2 years.	Mar. 22.	30	30	8	Mild.	24	Relief of symptoms; otitis media.	. . . . . .	. . . . . .	7 days.	Complete recovery.
25	2 years.	Mar. 25.	120	30	3	Common. . .	25	Marked relief of symptoms.	3 days. .	100-105	4 days.	Complete recovery.
26	4½ years.	May. 25, 26, 27, 28. . . .	120	30	5	Common. . .	26	Relief of symptoms . .	7 days. .	. . . . . .	8 days.	Complete recovery.
27	21 years.	Mar. 24, 25, 27, Apr. 1, 2, 3, 4, 15, 16, 17, 18.	330	30	3	Severe.	27	Rapid fall of temperature; relapses.	. . . . . .	. . . . . .	. . . . .	Death.
28	5 years.	Mar. 25, 26, 27, 28, Apr. 3, 6, 8, 15, 16, 17.	305	40	2	Severe.	28	Slight improvement in general condition.	24 days. .	. . . . . .	25 days.	Recovery; deaf.
29	9 years.	Apr. 11, 12	145	30	3	Common. . . .	29	None.	14 days. .	. . . . . .	13 days.	Complete recovery.
30	29 years.	Mar. 30, 31.	60	30	3	Fulminant. . .	30	Temporary return to consciousness.	. . . . . .	. . . . . .	. . . . .	Death in 28 hours.
31	16 years.	Mar. 30, 31, Apr. 1, 2. .	120	30	6	Mild.	31	Marked relief of symptoms.	3 days. .	. . . . . .	3 days.	Complete recovery.
32	5 years.	Apr. 6, 7	60	30	2	Fulminant. . .	32	Permanent fall of temperature; marked relief of symptoms.	1 day . .	. . . . . .	1 day. .	Complete recovery.
33	24 years.	Jan. 25, 27	60	30	21	Common. . . .	33	Permanent fall of temperature and complete relief of symptoms.	1 day . .	. . . . . .	1 day. .	Complete recovery.
34	7 years,	May 4, 6	45	30	8	Common. . . .	34	Relief of symptoms; permanent fall of temperature.	1 day . .	. . . . . .	1 day. .	Complete recovery.
35	4 years.	Apr. 19, 20, 21, 25.	105	30	5	Mild.	35	Complete relief of symptoms.	7 days. .	. . . . . .	1 day. .	Complete recovery.
36	21 mos. . .	May 11, 12	60	30	2	Common. . . .	36	Marked relief of symptoms.	2 days. .	. . . . . .	4 days.	Complete recovery.
37	14 years.	Apr. 21, 22, 23, 27, 28, 29.	180	30	. .	Common. . . .	37	Relief of symptoms. .	10 days. .	. . . . . .	10 days.	Complete recovery.
38	15 years.	Apr. 26, 27	60	30	. .	Severe.	38	Slight fall in temperature; no relief of symptoms.	. . . . . .	. . . . . .	. . . . .	Death in 29 hours.
39	2 years.	Apr. 24, 25, 27.	45	15	. .	Late, chronic. .	39	None.	. . . . . .	. . . . . .	. . . . .	Death in 2 weeks.
40	4 years.	Apr. 30, May 1, 2, 3, 6, 10.	195	45	. .	Common. . . .	40	None.	14 days. .	. . . . . .	6 days.	Thoroughly convalescent.

sonic index. Each year is regarded as beginning November 1 of the preceding calendar year, because we began to use the antiserum in November, 1907. I could not find any notable variation in the type of the disease from year to year. Figure 1 shows the figures.

It appears that the lowest mortality of any year before this was 58 per cent., and that it varied between 58 per cent. and 80 per cent., but that this year, under the use of the Flexner antiserum, the mortality has shown a remarkable drop to only 19 per cent. We may conclude that the other methods of treatment, vaccines, diphtheria antitoxin, and repeated lumbar puncture, are of little value in comparison with the antiserum.

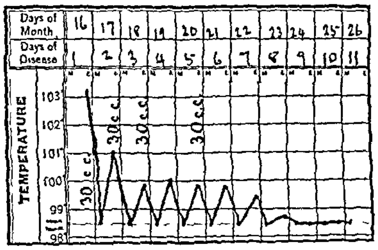

Fig 4.—Case 6. Early injection of antiserum followed by temporary fall of temperature to normal with marked relief of symptoms. Subsequent defervescence by lysis. This chart is typical of the commonest result of the early use of the serum in a severe case.

LIMITATIONS OF THE SERUM.

The nine fatal cases in the series throw a certain amount of light on the limitations of the value of the serum. Of these nine, five were cases seen late in the course of the disease, at a time when the patients were in the well-known chronic stage, unconscious, and without fever or active symptoms. In one of these the serum was not given until the patient was actually moribund. Of the other four cases, one was of the fulminating type, one a very severe case, and one patient died of an intercurrent bronchopneumonia, coming on after the temperature had come down to normal and all meningeal symptoms had subsided. The last case was one of average severity, in which the serum appeared to produce a slight improvement in the beginning, but which later appeared uninfluenced by the antiserum, advanced into the chronic stage, and a fatal result ensued after many weeks of illness.

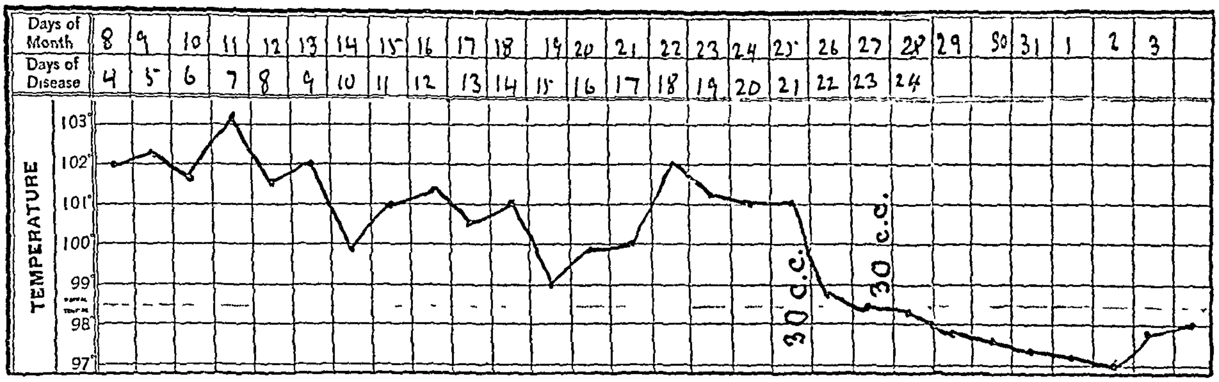

Fig 6.—Case 33. Late injection of antiserum followed by immediate crisis and very rapid convalescence.

My belief in the great value of the Flexner antimeningitis serum is based not chiefly on its apparent effect on the mortality of the disease, but on the very marked and striking effect which its use appears to produce in individual cases. It so modifies and changes the course of the disease as to present a very sharp contrast with the course usually seen in cerebrospinal meningitis treated by other methods.

Epidemic cerebrospinal meningitis, while showing wide variations in symptomatology and severity, presents certain characteristic features, to which we have become accustomed. In the fulminating and severe cases the patients either grow progressively worse and die in a comparatively early stage, or the disease gradually passes into a chronic stage in which the patient lies unconscious, with a varying fever for weeks or months. In time the fever disappears, but death usually occurs after a long period of illness. Even in the common and milder types, when recovery occurs, it is usually after a prolonged illness, often reaching many weeks. In the records of the last nine years at the Children's Hospital I could find no instance in which a proven case of cerebrospinal meningitis was aborted or terminated suddenly by crisis.

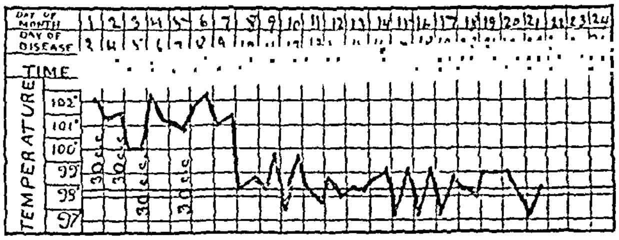

Fig 5.—Case 16. Early injection of antiserum followed by gradual improvement in symptoms, and crisis after five days.

EFFECTS OF THE SERUM.

The three principal effects of the use of the serum seem to be: First, to produce a fall of temperature: second, to produce a rapid improvement in the patient's general condition, accompanied by a more or less marked relief of certain symptoms, and, third, to cut short the course of the disease.

The most striking effect on the temperature is a permanent critical fall following the first dose of serum. This occurred in ten cases, the temperature falling at once to normal, or nearly normal, and showing no further tendency to rise. Other cases showed a similar critical fall of temperature, which was, however, not permanent, the temperature rising again and finally coming down by lysis. Such a temporary crisis occurred in four cases. Another effect was seen in a rapid permanent lysis, which was very striking in cases in which there had been a consistent high temperature up to the time when the first dose of serum was given. This occurred in nine cases. A similar lysis, but not permanent, the temperature going up again, occurred in two cases. A temporary sharp fall of temperature, not to the normal and not permanent, occurred in four cases; in these the temperature rose again, to come down by lysis later in the course of the disease. There was no immediate effect on the temperature noted in five cases. In the remaining six cases the patients had a normal temperature when the serum was given. See illustrative charts (Figs. 2 to 9).

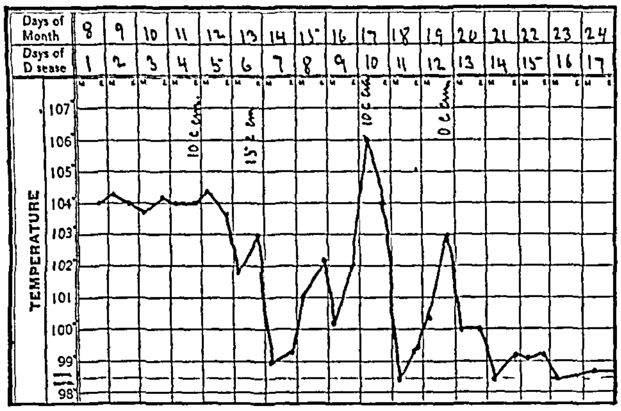

Fig 7.—Case 20. Tendency to relapse, controlled by small doses of antiserum.

ITS EFFECT ON SYMPTOMS.

The effect on the symptoms and general condition is the most striking phenomenon observed with the use of the serum. In some cases there occurred a permanent return to consciousness, a disappearance of mental dulness, a disappearance of delirium, and a disappearance of headache, hyperesthesia, tenderness of the neck or vomiting. These symptoms were often relieved completely within twenty-four hours after the first injection, the patient changing in the most remarkable way from a serious condition of coma to a favorable condition of normal mental activity.

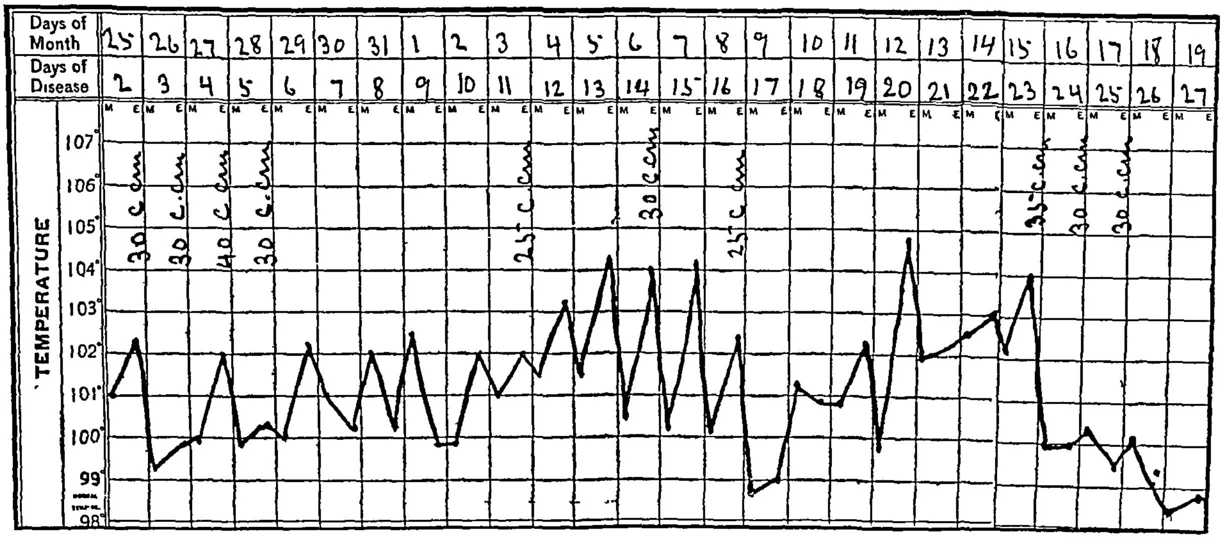

Fig 8.—Case 28 Resistant case, in spite of early use of antiserum. Early improvement in symptoms, but persistent fever.

At other times the improvement in this set of symptoms occurred more slowly, and at still other times, particularly in the late chronic cases, no such effect was noted. The rigidity of the neck and Kernig's sign were usually much more persistent, so that at times patients remained for some time normal in every way, even playing with the other children of the ward while these signs still persisted. The frequency of occurrence of this improvement in the symptoms and general condition is shown by the following table:

Improvement	Cases
Immediate marked ..	18
Immediate slight	6
Immediate temporary	4
Slower	7
None (all late chronic) ..	5

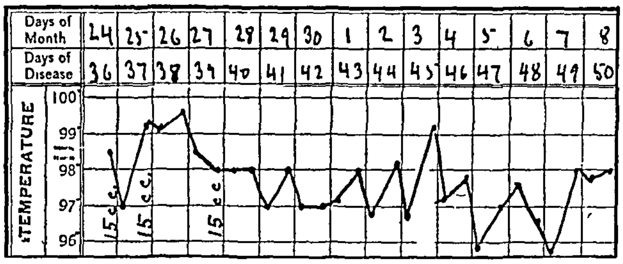

Fig 9.—Case 39 Late case in chronic stage, with subnormal temperature after five weeks' illness No effect from antiserum, and death from exhaustion

As to the cutting short of the disease, the average length of time which patients remained under treatment was but a small fraction of the time which patients who recovered remained under treatment at the hospital in previous years. The duration of symptoms after the first dose of serum, including the rigid neck and Kernig's sign, which were the last to disappear, is shown as follows:

DURATION OF SYMPTOMS

Weeks	Cases
1, or under	20
2	7
2 to 3	2
Over 3	2

ITS EFFECT ON THE CEREBROSPINAL FLUID.

Another notable effect of the serum is seen in the successive examinations of the cerebrospinal fluid during the period of its use. This effect is most striking in early cases, in which the cerebrospinal fluid contains large numbers of diplococci. In such a case a great many intracellular diplococci are observed in the fluid withdrawn by the first lumbar puncture. Twenty-four hours after the first injection the fluid presents a strikingly different picture. The whole number of organisms seen is much smaller, but the chief change is that the majority are intracellular, only rare extracellular forms being seen. The third lumbar puncture shows still fewer diplococci, and those only intracellular. In the fourth fluid, after three doses, there are frequently no diplococci to be found, or, at most, very rare intracellular forms.

Relapses sometimes occur under the use of the serum (Fig. 7). In a relapse, after a period of improvement, the symptoms begin to recur and the temperature to rise. This happened in seven cases. In two of these cases the serum was given in small single doses and was not repeated daily, although symptoms were not completely relieved, the treatment being repeated only in single doses when the relapses became plainly manifest. Each relapse responded to one dose of serum, but I believe the course of the disease would have been shortened if the treatment had been pushed at the outset, or if several successive doses had been given at the first relapse. In one case the treatment at the outset was interrupted by inability to obtain cerebrospinal fluid. Later, when the relapse occurred, it yielded promptly and permanently to three successive daily injections. In the remaining four cases the relapse occurred in spite of proper treatment at the outset. In two of these, treatment of the relapse by single doses of serum gave only temporary improvement, but both cases yielded permanently when four successive full doses were given.

THE LACK OF SEQUELÆ.

The completeness of recovery is another noteworthy point in this series. There were sequelæ in two cases only, one child being deaf and one blind and deaf. The results of the use of the serum appeared to depend chiefly on how early it was first used. The earlier it was employed the more marked were its effects. In 5 cases the disease was suddenly aborted after one dose of serum—that is, there was an immediate fall of temperature to normal and all symptoms were at once completely and permanently relieved. In 4 of these cases the serum was given in the first forty-eight hours. The fifth case was an exception, the disease having run a steady unchanged course for twenty-one days, with constant fever and symptoms. A crisis took place and there was complete relief of symptoms after one dose of serum. In 17 cases there was very rapid and permanent improvement, with a short convalescence. In 12 of these cases the serum was given in the first week, in 3 in the second week, in 1 in the third week, and in 1 case the patient was in the chronic stage, having been ill fifty days; in this case the temperature was normal when the serum was given, but the child was vomiting and in very poor condition. The organisms were still fairly numerous in the cerebrospinal fluid. Vomiting ceased and very rapid improvement occurred after one dose of serum. In 9 cases improvement was slower, with or without relapses. In 7 of these cases the serum was given in the first week, and in 1 in the second week. In 8 cases the serum had no marked effect; of these, 3 were in the first week, the other 5 being late chronic cases.

The relation between the mortality and the stage of the disease is shown by the following table:

Serum given in first week, 8 per cent.
Serum given in second week, 0 per cent.
Serum given after second week, 77 per cent.

We may conclude that the prospects of aborting or rapidly cutting short epidemic cerebrospinal meningitis are better the earlier in the disease the serum is given, and that the antiserum usually has no effect in the late chronic stage. There were cases which proved exceptions to this rule, as in three cases in which the serum was used comparatively early the patients died. On the other hand, one patient in the late chronic stage began to improve immediately after one dose of serum and made a rapid convalescence. This would show that there is always some hope of a good result so long as diplococci are present. I believe the serum in most cases causes a cessation of the active process and that the resulting course of the disease depends mainly on the extent of tissue damage which has already been done.

AMOUNT OF SERUM TO BE GIVEN.

As to the amount of serum which should be given, I was at first afraid to inject amounts larger than the quantity of cerebrospinal fluid withdrawn. After several patients, to whom small doses had been given, had shown a less favorable course, more prolonged illness and a tendency to relapse, I began to use larger doses. A few patients showed signs of collapse immediately after an injection, but in no case were these signs of long duration, nor did they end in death. I believe that 30 c.c. can be given usually with perfect safety, even when smaller amounts of fluid are withdrawn. I have given, without any bad results, as much as this when no fluid was withdrawn. One can judge to a certain extent how far it is safe to go by the feeling of resistance to the injection of the serum. In cases in which larger amounts of fluid are withdrawn I believe 45 c.c. should be given at a dose.

The daily injection of the serum in most cases seemed to be effective. After four doses have been given, if, after one or two days the case proves resistant, or at any time if there is a tendency to relapse, this treatment should be repeated. It is a question whether in some severe cases the serum should not be administered oftener than once in twenty-four hours. In two very severe cases death occurred in spite of the early use of the serum. In both of these cases a notable improvement was shown after the first dose and continued up to within a few hours of the time I arrived to give the second injection. Then both patients began to grow rapidly worse, so that when the second injection was given the condition of each was practically hopeless. I think it is possible these patients might have been saved by more frequent use of the serum, and I believe fulminating cases should be very closely watched and provision made for giving a second dose at any time.

CONCLUSIONS.

I conclude from this series of cases that:

1. The use of the Flexner antiserum is of great value in epidemic cerebrospinal meningitis. I believe its value to be comparable to that of diphtheria antitoxin in diphtheria.
2. The use of the serum at times aborts the disease, frequently rapidly relieves its symptoms, shortens its course, lessens the liability to sequelæ, and greatly reduces its mortality.

3. The serum should be used as early as possible in all cases, even of suspected epidemic meningitis.
4. It should be frequently repeated as long as there are symptoms or any tendency to relapse.
5. Late chronic cases are unfavorable for the use of the serum, but any case in which the diplococci are present has some hope of relief by its use.
6. Some cases are resistant.

220 Marlborough Street.

TREATMENT OF MENINGOCOCCIC MENINGITIS WITH THE FLEXNER SERUM.

REPORT OF CASES.*

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I have had the opportunity of using the Flexner serum in 11 cases of meningococcic meningitis. The number is, of course, small, but I am reporting them now in order to call the attention of the profession anew to this method of treatment of epidemic meningitis. The serum is still on trial. Its efficacy is not yet proven. Enough has been accomplished by its use, however, to warrant, or rather to necessitate, a much more extended trial of it. It is desirable that it should be used in a large number of cases, records carefully kept, collected and analyzed. Dr. Flexner has kindly furnished me with the serum for general use in this community, requesting that records be kept of all cases, collected and forwarded to him.

In the 11 cases (all in Chicago) in which the serum was used, 7 of the patients have recovered, 4 have died. Of the 4 patients who died, only 2 of the cases were proved by bacteriologic examination to be of the meningococcic type, and, of these two, one was of the fulminating type, and in the other the patient entered the hospital in a moribund condition on the tenth day of the disease. Thus, in 7 of the 9 proved cases the patients have recovered.

It is not the purpose of this paper to describe at length the symptoms in the cases. All were clinically meningitis and, except in the two already mentioned, the meningococcus was found in the spinal fluid on lumbar puncture. I wish only to call attention to the effect of the serum on the disease as a whole, on the general condition of the patients, on the leucocyte count and on the spinal fluid as manifested by color, number of leucocytes and organisms.

The technic of giving the serum is simple. A lumbar puncture is done and, if possible, 30 c.c. of fluid is withdrawn. Then to the canula still in place is attached an ordinary antitoxin syringe, the serum poured from the bottle into the barrel of the syringe and allowed to run directly into the spinal canal. As a rule, the piston must be used to force at least the last part of the serum. The serum should be heated to body temperature before using. This may be done by standing it in warm water. Flexner recommends, for the present, a dose of 30 c.c., to be repeated every 24 or 48 hours, for 3 or 4 times if there be no improvement. It also seems safer to withdraw spinal fluid equal in amount to the serum to be injected, to avoid pressure symptoms. Some cases have been reported, however, in which no fluid whatever has been withdrawn and as high as 20 c.c. of the serum injected without bad results. If, for any reason, it is found impossible to inject into the spinal canal, the serum may be given subcutaneously, but good results are not expected by this method.

CASES

Case 1.—*Patient.*—R. S., school girl, aged 14, entered the Presbyterian Hospital March 11, 1908. Service of Dr. A. C. Cotton.

History.—Eleven days before admission she began to have severe headache, followed by vomiting. On attempting to walk, she would fall on her side. Unconscious since 9 a. m. of day of admission. Just before becoming unconscious she said she could not see.

Examination.—Well developed and well nourished girl, apparently moribund. Head retracted and rigid. Slightly cyanotic, breathing stertorous. Pupils dilated, reacting sluggishly to light. Deviation of eyes to left. Numerous medium and coarse râles everywhere throughout the chest. Respiration irregular. Heart regular, rapid, fair strength. Abdomen flat. *Tâche cérébrale.*

Treatment.—Lumbar puncture at 12 midnight, and about 30 c.c. of cloudy fluid withdrawn and 15 c.c. serum injected. Smears and cultures from the spinal fluid showed a gram-negative diplococcus, intracellular, corresponding morphologically and culturally to the meningococcus. Cultures from the nose showed the same organism. The child was practically moribund on admission. She sank steadily and died at 4 p. m. the next day, March 12. The temperature ranged from 101 to 103 F., the pulse and respiration were continuously rapid. The serum had no effect on her condition, except possibly on the leucocyte count. This was 34,000 at 11 p. m. on March 11, before the injection, and 24,000 at 11 a. m., the next day, 11 hours after injection. The drop may or may not have been due to the serum.

Case 2.—Baby R., girl, aged 2; service of Drs. Hughes and F. B. Earle, Chicago; entered St. Bernard's Hotel Dieu, March 4, 1908.

History.—Uncle died of meningitis years ago. Family history otherwise negative. Child was normal at birth, after an instrumental delivery. Never breast fed, brought up on artificial food; always delicate; had considerable digestive disturbance during the first few months of life. Early in January, 1908, had an attack of enterocolitis and "bronchitis," but improved after two weeks' treatment. For about one week before admission, had been drowsy and "lifeless," vomiting all food; had had apparent fever, restless sleep, retracted head and apparent general pain on being handled. No convulsions.

Examination.—Fairly well-nourished. Head square, retracted, produced pain on being moved. Chest negative except for rachitic rosary. Abdomen distended. Child lay with legs flexed stiffly and cried out when they were extended. Leucocyte count 30,000. Urine showed albumin, otherwise negative.

Treatment.—March 6. Lumbar puncture and about 30 c.c. of clear spinal fluid removed. Smears showed some polymorphonuclears. Baby seemed more comfortable and brighter after puncture.

March 9. Lumbar puncture and about 30 c.c. of spinal fluid withdrawn, clear and of same character as in former punctures. Flexner serum, 30 c.c., injected into the spinal canal. Baby seemed better after puncture and injection, for about 24 hours.

March 11. Child weaker; died at 12 midnight. Exact type was not determined, evidently.

Case 3.—*Patient.*—Moses S., aged 2, entered Michael Reese Hospital, Feb. 10, 1908. Service of Drs. Hess and Spitz.

History—Present illness began six weeks before admission, when mother noticed that the child did not look well, was not as bright as usual, cried much and was constipated. One week before admission retraction of the head began, increased steadily and when seen opisthotonos was quite marked.

Examination.—Marked emaciation, marked opisthotonos, purulent conjunctivitis. Numerous mucous râles everywhere over the chest. Abdomen negative. Kernig's sign present on both sides. Babinski reflex on left side only. Temperature, 96.7 F.; pulse, 148; respiration, 48.

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* Read at the Annual Meeting of the American Pediatric Society, May 25-27, 1908.

Treatment.—Child remained in about this condition for two weeks with a low temperature, when a lumbar puncture was done and 20 c.c. of bloody fluid was withdrawn and 10 c.c. of serum injected. Seemed only a little better next day; second lumbar puncture and 15 c.c. of bloody fluid withdrawn, and 7.5 c.c. of serum injected. No particular change was noticed until two days later when child seemed weaker. Was then taken out of the hospital by the parents and died a few days later.

The examination of the spinal fluid in this case showed gram-positive diplococci and many polymorphonuclear leucocytes. Cultures were contaminated. The exact nature of the organism was never positively determined, but it evidently was not the meningococcus. The case can not be regarded as one of this type of meningitis and was, therefore, no test of the value of serum.

Case 4.—*Patient.*—Joe B., aged 16, school boy, entered Cook County Hospital, April 16, 1908, service of Dr. Kerr.

History.—Family history negative. Boy said that he had a tuberculous dactylitis a few months ago, for which the finger was amputated. Six days before admission he was running a great deal and got very hot. On the day following when he got up his neck was a trifle stiff and later he had some pain in the back. The next day his legs pained him somewhat. The stiffness of the neck had increased and the head had become retracted. No headache, no nausea, no vomiting.

Examination.—Well-nourished; lay with head somewhat retracted; face flushed. Eyes normal. Slight herpes about the angle of the mouth. The neck was rigid and movement painful. Kernig's sign present on both sides. No Babinski; movement of the lower limbs very painful.

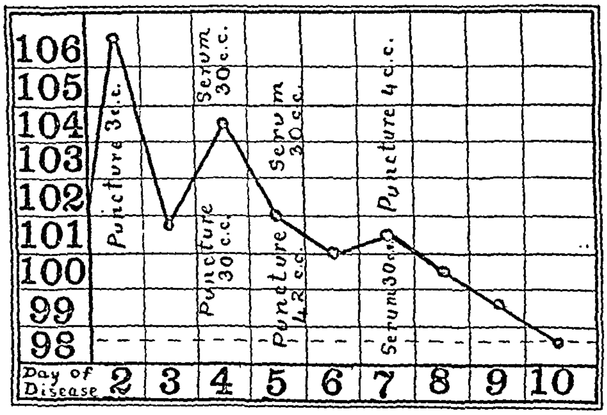

Fig. 1.—Chart illustrating temperature curve in Case 5, Frank J.

Treatment.—April 17. Lumbar, puncture and 30 c.c. of turbid fluid withdrawn, showing 2,880 leucocytes and 288 meningococci to the cu. mm. The diplococci were mostly extracellular, only 1.5 diplococci within the cell on the average. Blood: 13,600 leucocytes.

April 18: Better, less rigid. Lumbar puncture and 45 c.c. of turbid fluid withdrawn, containing fewer leucocytes and diplococci. Injection of 30 c.c. of serum into the spinal canal. Blood: 17,400 leucocytes. Restless and in pain for 6 or 8 hours after injection, then more quiet.

April 21: Much better, less rigid. Leucocytes, 15,800.

April 23: Improvement continued. Leucocytes, 20,200. Abdomen tender on right side.

April 28: Seemed perfectly well. Leucocytes, 10,200.

May 24: Went home, No sequelæ.

Case 5.—*Patient.*—Frank J., aged 14, printer, entered Cook County Hospital, April 12, 1908, service of Dr. E. F. Wells.

History.—Scarlet fever one year ago. Ear-trouble for years, with occasional discharge. No exposure to meningitis cases. Sore throat and earache five days before admission, latter was relieved by discharge from right ear. Continued to work until night preceding admission, when he went to bed with a severe headache, vomited (projectile), had a chill.

Examination.—Well nourished boy; complained at times of severe headache and pain in back of neck, and at times muttered deliriously. Neck was rigid, pain apparently increased on moving. Pupils equal and reacted to light. Tongue coated, breath foul. *Tâche cérébrale.* Both knee-joints exaggerated. Kernig's sign present on both sides. No Babinski.

Treatment.—Lumbar puncture done and 3 c.c. of very cloudy fluid removed with difficulty. Many large diplococci 6 to 12 in each field, and pus cells in smear; a few of the cocci intracellular. Cultures showed gram-negative diplococci.

April 13: *Urine showed a trace of albumin, otherwise* negative.

April 14: Restless and noisy. Lumbar puncture done and 30 c.c. of purulent fluid withdrawn and 30 c.c. serum injected. Blood: Leucocytes 22,400. Profuse perspiration 6 hours after injection.

April 15: Mentally clearer but rigidity the same. Convulsion at 6 a. m. Lumbar puncture and 42 c.c. of fluid withdrawn, less cloudy, containing about half as many leucocytes as on previous day and only one diplococcus to every 6 fields. Injection of 30 c.c. of serum. Blood: 17,000 leucocytes.

April 17: Better. Lumbar puncture and 4 c.c. fluid, less cloudy, withdrawn; and 30 c.c. of serum injected. Blood: 17,000 leucocytes.

April 19: Much better; entirely rational. Urticaria on face. Blood: 8,000 leucocytes.

May 9: Had progressed steadily. Urine cleared up. Went home well.

This was a very severe case, the boy being desperately sick when the first injection of serum was given and apparently having but a slight chance of recovery. The spinal fluid at the second lumbar puncture was thick with pus cells, and, on standing, looked like the urine from a severe case of pyelitis, with a thick layer of pus at the bottom of the glass. The response to the first injection of serum was striking, as evidenced by the clearer mentality, the drop in the temperature and leucocyte curves and the clearer spinal fluid the next day. He might have recovered without the third injection, but it seemed better not to take any chances.

Case 6.—*Patient.*—Margaret B., aged 7. from practice of Dr. E. A. Streich, Chicago.

History.—On March 28, 1908, *patient was taken suddenly* ill with a convulsion lasting about 5 minutes followed by complete unconsciousness for several hours. Later vomiting, restless *and crying out* in apparent pain.

Examination.—Patient unconscious, head retracted, neck and back rigid. Pupils dilated, did not react to light, nystagmus and strabismus present. Patellar and plantar reflexes, and ankle clonus all absent on both sides. Kernig's sign present on both sides.

Treatment.—Lumbar puncture and 10 c.c. of thick, bloody fluid withdrawn showing microscropically many red cells and a few polymorphonuclear leucocytes. No organisms found.

March 29: Patient still screamed on slight movement of head; opisthotonos marked, unconscious. Lumbar puncture and 15 c.c. of a thick, sero-purulent fluid withdrawn and 15 c.c. of Flexner serum injected. Microscopic examination of the spinal fluid showed many polymorphonuclear leucocytes, containing meningococci. Many diplococci extracellular. Cultures confirmed the smears.

March 30: Child partially conscious and complained of intense headache and severe pain in the abdomen; marked general hyperesthesia; very restless, but no longer vomiting.

March 31: Patient had not improved since previous day, still complained of headache and pain in abdomen; was crying. Rigidity persisted. Lumbar puncture, under slight chloroform anesthesia, and 15 c.c. of thin, watery, slightly turbid fluid withdrawn. It contained not nearly as many leucocytes as the previous specimen. Serum, 15 c.c. injected into spinal canal.

April 1: Child much brighter, recognized parents. No vomiting, some pain in head and abdomen. Slight opisthotonos, Kernig's sign less marked; slept comfortably a short time.

April 2: Conscious, resting quietly, opisthotonos nearly gone. Slight headache and pain in abdomen.

April 3: Cerebral symptoms had entirely disappeared, asked for something to eat.

April 4: Improvement continued. All rigidity gone; slept most of the time. From this time on the child made an uneventful recovery, except that on the thirteenth day of her illness she developed an urticaria, covering the entire body and causing intense itching. It disappeared within 48 hours. An acute parenchymatous nephritis was present at first, but had cleared up by the eighth day.

THE BLOOD DURING COURSE OF DISEASE IN MARGARET B. (CASE 6.)

March 29: Total leucocytes, 10,800; polymorphonuclears, 90.2 per cent.; lymphocytes, 9.3 per cent.; large mononuclears, 5.5 per cent.

March 30: Total leucocytes, 13,800; polymorphonuclears, 83 per cent.; lymphocytes, 15.4 per cent.; large mononuclears, 1.6 per cent.

March 31: Total leucocytes, 15,000; polymorphonuclears, 78.5 per cent.; lymphocytes, 19.8 per cent.; large mononuclears 1.7 per cent.

The total leucocyte count after this date ranged from 10,800 to 13,800.

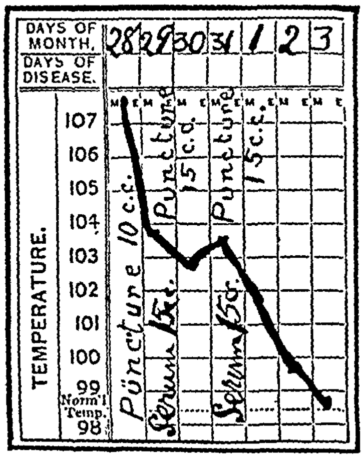

Fig. 2.—Temperature curve in Case 6, Margaret B.

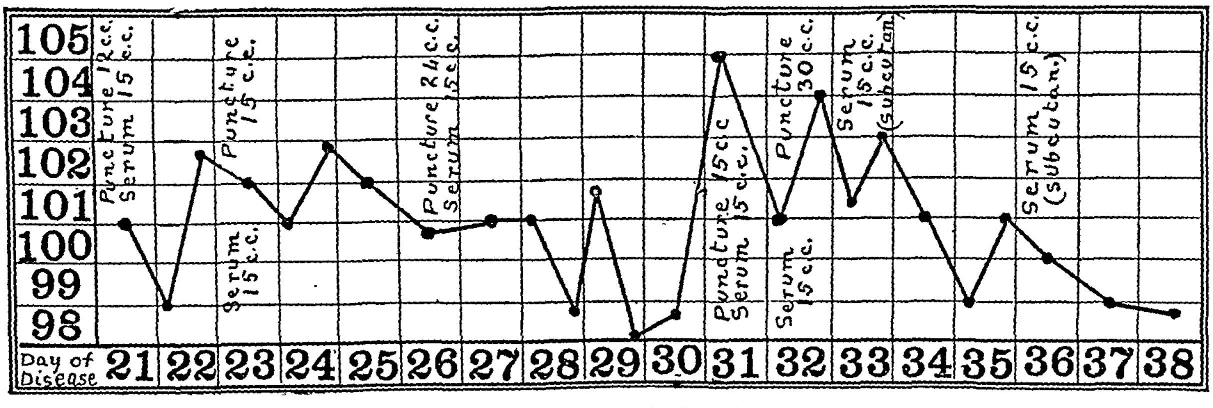

Fig. 3.—Temperature curve in Case 7, Herant M.

This was a very severe case and remarkably short in its duration. The rapid improvement after the injections of the serum made one believe that it must have been due to this method of treatment. The results are graphically shown in the temperature chart (Fig. 2).

CASE 7.—*Patient.*—Herant M., aged 9, entered Presbyterian Hospital March 23, 1908. Service Dr. A. C. Cotton.

History.—Patient was taken suddenly sick three weeks before admission with fever, nausea and vomiting, and rapidly became delirious. He could be aroused during the first three days but since then had been practically unconscious. Nausea and vomiting stopped after the third day.

Examination.—Child was semiconscious, head retracted, rigid, painful on motion. Pupils rather large, reacted to light. Cried much. Abdomen scaphoid and rigid. *Tâche cérébrale.* Extremities all rigid. Kernig's sign present on both sides. Patient cried out from time to time as if in pain. Seemed very sick.

Treatment.—Lumbar puncture done and 12 c.c. of turbid fluid withdrawn and 15 c.c. serum injected. Many meningococci and leucocytes in spinal fluid. Total leucocytes in blood, 15,000.

March 25: Lumbar puncture and 15 c.c. turbid fluid withdrawn, containing 2,400 leucocytes to the cu. mm. Injection of serum, 15 c.c. Blood: 12,000 leucocytes.

March 28: General condition the same. Puncture and 24 c.c. turbid fluid withdrawn containing 1,200 leucocytes to the cu. mm. Injection of serum, 15 c.c.

March 29: Brighter, less rigid.

April 2: Much worse in every way. Lumbar puncture and 15 c.c. fluid withdrawn, much more cloudy and containing 3,800 leucocytes to the cu. mm. Injection of serum, 15 c.c. Blood: 28,000 leucocytes; six hours after serum, 22,000.

April 3: No better. Blood: 21,000 leucocytes. Puncture and 30 c.c. bloody fluid withdrawn. Injection of serum 30 c.c.

April 4: Little more quiet. Leucocytes 20,000. Subcutaneous injection of 15 c.c. of serum.

April 7: Restless and noisy. Leucocytes, 12,000. Injected serum, 15 c.c., subcutaneously.

May 10: Steady improvement since last date, except for a mild attack of diphtheritic tonsillitis (ward epidemic). Went home well.

CASE 8.—*Patient.*—Wilbur L., aged 30, entered St. Luke's Hospital, April 15, 1908. Service of Drs. Nichols and Fuller.

History.—One sister died of spinal meningitis, not recently. On April 12 patient had a chill, followed by fever, vomited a great deal, had much headache and great pain in the neck. These symptoms continued for three days, when he became delirious and violent, continued thus for about twelve hours, when he became unconscious, in which condition he was brought into the hospital.

Examination.—White man, well built and muscular, in moderate coma. Head retracted; herpes on upper lip. Pupils small, equal and reacted to light. Nystagmus, eyes roll upward, photophobia. Tongue coated, breath foul. *Tâche cérébrale.* Kernig's sign present on both sides. Patellar reflexes decreased. Spine very rigid and flexion of it caused patient to cry out. Urine: Color normal, sp. gr. 1.025, much albumin, chlorids a trace only; sediment—a few red blood corpuscles, few leucocytes, few epithelial cells; few narrow, coarsely granular casts. Blood: 20,000 leucocytes, 99 per cent. of polymorphonuclears.

Treatment.—Lumbar puncture, 4 p. m. fluid turbid, straw colored and contained flocculi. Albumin 1 per cent. (Esbach). Sediment showed many leucocytes, 95 per cent. polymorphonuclears, 5 per cent. mononuclears. No micro-organisms in dried smears. At 11 p. m. puncture, 15 c.c. serum injected.

April 16: Following a bad night, patient seemed worse. Rigidity as on previous day. Blood: Red corpuscles, 4,700,000; leucocytes, 9,200; differential count, poly., 93 per cent.; small mono., 6 per cent.; large mono., 1 per cent. Cultures from blood showed no organisms after 48 hours' growth on bouillon. Lumbar puncture done at 5 p. m. and 30 c.c. cloudy fluid withdrawn and 30 c.c. serum injected. Patient desperately sick, had a bad day.

April 17: Another bad night; weaker. Grew steadily weaker and died at 3:15 p. m. Smears from the culture of April 16 showed the same number and proportion of leucocytes as on April 15. Cultures showed the meningococcus.

This was a desperate case, a fulminating one from the start, the patient dying on the fifth day of his illness. The serum apparently affected the leucocyte count, but had no effect on either his general condition or the character of the spinal fluid. Temperature went up steadily from 101 F. at admission to 106.5 at death.

Case 9.—*Patient.*—Raffaela, G., aged 30, house-wife; entered Cook County Hospital, April 11, 1908. Service of Dr. J. J. Herrick.

History.—Patient had been sick three weeks with severe headache, pain in back and legs. Six days before admission had a chill, two days later vomited and had another chill, more severe than the first, and has had slight chills every morning since.

Examination.—Patient lay in bed moaning at times. Seemed fully conscious of her surroundings, answered questions through an interpreter, but easily lapsed into a kind of stupor. Neck rigid and painful on moving. Face flushed. Pupils equal, contracted and reacting slightly to light. Tongue coated and dry. Abdomen retracted. *Tâche cérébrale.* Knee jerks brisk; Kernig's sign present on both sides; no Babinski. Blood: 19,000 leucocytes.

Treatment.—Lumbar puncture and 10 c.c. cloudy fluid obtained, many meningococci.

April 16: Restless and violent. Puncture and 30 c.c. turbid fluid withdrawn containing 4,250 leucocytes to the cu. mm., but only one diplococcus in several fields. Injection of serum, 30 c.c. Blood: 15,000 leucocytes.

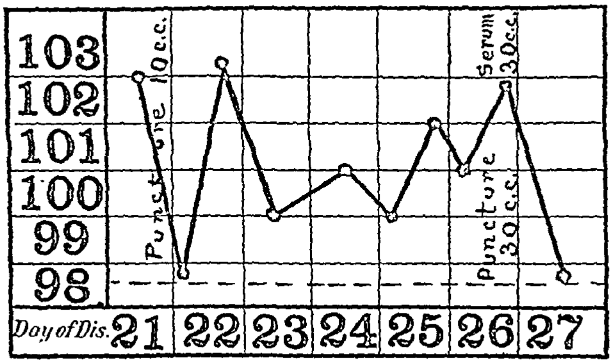

Fig. 4.—Temperature curve in Case 9, Raffaela G.

April 17: Leucocytes, 8,200.

April 22: Puncture unsuccessful.

May 9: Disease ran a protracted course, gradually clearing up. The single dose of serum may or may not have influenced the final result. The only immediate effect was the sharp drop in temperature to normal. It never went up again. A similar drop took place after the first puncture (without any serum), followed, however, by an immediate rise.

Case 10. *Patient.*—Charles T., aged 19, entered Presbyterian Hospital 7 p. m., May 8, 1908. Service of Dr. Billings.

History.—Patient was as well as usual on the morning of the day he was admitted and went to work. At 3 p. m., while at work, he was suddenly seized with a severe chill, followed by fever, pain in head and abdomen. He stopped work, laid down and slept for a few minutes and was then taken home and put to bed, talking incoherently. He vomited a small amount of greenish material. Temperature, 104 F.

Examination.—(7 p. m.) Well developed and well nourished young man. Head slightly retracted, not rigid. Eyes normal. Loud systolic *bruit* heard at the apex. Marked kyphosis in lower dorsal region. Extremities, flexed on abdomen. Kernig's sign absent on both sides. Babinski absent. Blood: (10 a. m.) 23,600 leucocytes; blood pressure, 98 mm. Hg. At 5 p. m., blood 28,000 leucocytes.

Treatment.—May 9: Had a restless night. Lumbar puncture done at 10:30 a. m. and about 30 c.c. of cloudy fluid evacuated under considerable pressure, containing 24,000 leucocytes to the cu. mm. Smears showed a gram-negative diplococcus 1 to every 10 cells, extra-cellular, resembling the meningococcus. Cultures confirmed this. Patient was not relieved by puncture. At 5 p. m., puncture done again and 15 c.c. of bloody fluid obtained and 25 c.c. of serum injected.

May 10: Restless for ten hours after puncture, then slept and awoke entirely rational, with normal temperature, but rigidity the same. Blood: 14,200 leucocytes.

May 11: Rigidity continued. Puncture done and 20 c.c. of fluid withdrawn containing 6,000 leucocytes and 212 diplococci to the cu. mm. Injected serum, 30 c.c. Blood: 10,800 leucocytes.

May 15: Been doing well. Restless, pulse irregular. No apparent cause for elevation of temperature.

May 18: Kernig's sign gone. Neck a little rigid.

May 25: Practically well, though still in hospital.

Case 11.—*Patient.*—Annie B., aged 11, entered Cook County Hospital May 11, 1908. Service of Dr. I. A. Abt.

History.—Patient was taken ill suddenly about 2 a. m., May 8, with pain in back of head and neck, which continued to increase in severity, with rising temperature till about 7 a. m., when she became semi-delirious. She continued in this condition until she was brought in to the hospital at noon, May 11.

Examination.—Child well developed and well nourished. Semi-conscious, head markedly retracted, body and limbs rigid. Face flushed, respiration rapid and irregular. Herpes on lips. Pupils unequal, both responded sluggishly to light. Tongue badly coated, breath foul. Semi-purulent discharge from nose. A few petechial-like spots on front and upper part of chest. Few râles over lower lobes of lungs posteriorly, both sides. Heart, rapid but irregular. Abdomen rigid, otherwise negative. Extremities all rigid; thighs flexed on abdomen. Kernig's sign present on both sides; reflexes absent. Child very sick.

May 11: (5 p. m.) Lumbar puncture done and 25 c.c. of turbid fluid withdrawn containing many leucocytes and a few extracellular diplococci. Injected 30 c.c. of serum. Blood: 18,000 leucocytes.

May 12: About the same at 4 p. m., lumbar puncture was done and 30 c.c. of turbid fluid withdrawn showing 80,000 leucocytes to the cu. mm. and 9,000 diplococci (3,000 extra- and 6,000 intra-cellular). Injected 30 c.c. of serum. More quiet after injection and rational by 8 p. m. Blood: 29,800 leucocytes.

May 13: Brighter mentally, but still rigid and pulse irregular. Puncture done and 30 c.c. fluid withdrawn less turbid showing 11,400 leucocytes and 855 diplococci (570 extra- and 285 intra-cellular).

May 14: Much brighter; playing with the other children, though the head was still retracted and she was generally rigid. Blood: 15,200 leucocytes.

May 16: Continued to improve. Leucocytes 17,800. Cause?

May 18: Seemed perfectly well; no rigidity; Kernig's sign gone. Leucocytes, 25,000. Cause?

May 24: Smear from vagina showed a diplococcus resembling the gonococcus, probably causing the leucocytosis (15,000 to-day). Still under observation.

Observations have been made, in these cases, on the general condition, on the temperature, on the number of leucocytes in the circulating blood, and on the spinal fluid.

GENERAL CONDITION.

As a rule, the patients were more comfortable after a puncture and injection, though in one or two of the cases this did not take place for several hours after the puncture. The immediate effect of this procedure seemed to stir up the patient. None of the punctures were done under an anesthetic, but I believe that there would be considerable saving of wear and tear in certain patients if they were given an anesthetic, for example, those not very toxic, but in a fairly conscious condition.

The first sign of permanent improvement noticed in at least 5 of the patients was a clearing up of the mental condition. They became perfectly rational after an injection (not always the first one), were more quiet, while the rigidities were still very marked. It was a curious sight to see the patient lying in bed with head strongly retracted, yet with no expression of pain; quiet, looking about and interested in the ward doings.

THE TEMPERATURE.

The temperature has shown a decided tendency to drop steadily from the beginning of treatment, at least in those cases running a short course. This is especially notable in Case 6. This was not so pronounced in the more protracted cases, for example in Case 7, the course of the patient's temperature was not steadily downward, yet even here we see a decided tendency to remit after individual injections. The more prolonged course, with a sharp exacerbation, was undoubtedly due to the fact that he did not come under treatment till late in the disease—the twenty-first day. Also he was the first patient in whom I used the serum and we were possibly somewhat timid in our dosage. I believe we should have given him the full doses from the start. The two subcutaneous injections, by the way, seemed to produce as quieting an effect as did the intradural ones.

THE LEUCOCYTE CURVE.

The effect of the serum on the total leucocyte count was striking and uniform. There was almost invariably a drop after the first injection, sometimes to a marked degree, e. g., in Case 6, from 19,000 to 13,000 within 24 hours after the first injection; Case 5, from 22,000 to 17,000; Case 10, from 23,000 to 14,000. In Case 11, a very severe one, the first injection failed to produce any effect on the general condition, and the disease apparently continued to advance, for we see in the first 24 hours a jump in the leucocyte count from 18,000 to 29,000. Then the second injection evidently began to produce its effect, as was seen by the brighter mental condition of the patient and a considerable drop in the leucocyte count, from 29,000 to 15,000.

I am unable to account for the continued leucocytosis in Case 4. It was not accompanied with a high temperature, nor lack of improvement in general condition. The patient had, however, considerable tenderness and some dulness in the right iliac region and it is possible he had some slight trouble with his appendix. Everything eventually cleared up. In Case 8 the drop from 20,000 to 9,000, with a steady advance of the disease to a fatal issue, was due presumably to lack of resisting power on the part of the patient and is comparable to the similar phenomenon observed in fatal cases of lobar pneumonia.

THE EFFECT ON THE SPINAL FLUID.

It being particularly desirable to have information as to the effect of the serum directly on the seat of the disease, special attempts have been made to study the spinal fluid. The color has been noted in all cases, the number of leucocytes and organisms present, in 6 cases. The fluid has, of course, been turbid at the first puncture, in one or two instances clearing up at the subsequent punctures, in others not.

The number of leucocytes to the cu. mm. has been counted as in the blood. They have ranged from 2,400 to 80,000 in the first puncture, and from 80 to 7,000 in a final puncture. The last puncture done generally showed a decided drop in the number of cells. The count in Case 7 is of special interest, showing a decided increase over that noted in the previous puncture, from 1,200 to 3,800, coincidently with an increase of all other symptoms and signs, temperature, total leucocytes, etc.

The leucocytes were, of course, largely of the polymorphonuclear variety. The proportion has been noted in only one case (Case 8), in which it showed 95 per cent. of polymorphonuclears and 5 per cent. of mononuclears.

The number of organisms to the cu. mm. in the spinal fluid has been estimated roughly by counting both leucocytes and diplococci in several fields, noting the proportion and then calculating the latter from the leucocyte count. Thus in Case 10 there were 24,000 leucocytes to the cu. mm. and about one diplococcus to every ten cells, making approximately 2,400 organisms to each cu. mm. They also decreased with the progress of the disease.

SIGNIFICANCE OF THE RESULTS.

The number of cases reported in this paper is, of course, small, and taken by themselves would be of no significance. Taken with the cases already reported by Flexner and his other investigators, the results of this treatment of meningococcic meningitis are most remarkable. As one watches the behavior of these patients after one, two or three injections of this serum, he is impressed with the astonishing change which comes over them, the clearing mentality, the unsuffering expression of countenance, the evident comfort, even with a still retracted head and rigid muscles, and he is filled with an optimism as to the ultimate result which perhaps is not yet justified.

Enough has already been done by the serum, however, to warrant its use on a wide scale, and it is not too strong a statement to make that, given a case suspected to be meningitis, it is our duty to do a lumbar puncture and, if we get a cloudy fluid, to inject the serum at once and repeat it if bacteriologic examination prove the case to be one of the meningococcic variety.

I wish to thank Dr. Flexner for the opportunity of using the serum, and also the various physicians who have allowed me to study the effects of the serum on their patients. My thanks, also, are due to all the internes at the various hospitals for their cordial and interested help in the laboratory investigations of cases. Their assistance has been much appreciated.

439 North State Street.

OBSERVATIONS ON THE THYROID AND THE PARATHYROIDS.*

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With our forebears, anatomy was the handmaiden of surgery; pathology its judge or jury. Modern aggressive surgery, the veritable *sectio in vivo,* demands of the anatomist a closer study of the viscera and ever and anon puts new problems before the physiologist.

The enormous amount of anatomic, embryologic, physiologic, chemical and animal experimental work on the thyroids and the parathyroids, growing out of the recognition of definite groups of postoperative symptoms, has shed much light on, and aroused much interest in, the functions of these important structures. I may not venture, because of the necessarily limited time alloted to this paper, to give even a cursory epitome of modern research work, but may attempt to state the conclusions which, after a fairly complete review of the work done by hosts of experimenters and observers, and my own limited part therein, appear to me to logically present the present status of the subject.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

EXPERIMENTERS NOT UNANIMOUS.

It is but fair to state that some observers and experimenters of note are not in accord with the majority of workers and the conclusions currently accepted. Vincent and Jolly say that neither the thyroids nor the parathyroids are to be considered as organs essential to life. Rats and guinea-pigs do not seem to suffer from the extirpation of the parathyroids; monkeys show only transient symptoms; dogs, cats, foxes and prairie wolves frequently suffer and die. On the other hand, badgers (purely carnivorous animals) are not affected by the operation. When parathyroidectomy proves fatal it is probably due to severe injury done to the thyroid. The thyroid and the parathyroids are to be looked on as a single physiologic apparatus, the two kinds of tissue being intimately associated embryologically and working together physiologically. When the thyroid is removed the parathyroids appear capable of functionally replacing it to a certain extent and their histologic structure changes accordingly.

Blum says the thyroid is no secretory gland, but a detoxicating organ, which by the removal of toxic material from the circulation by intraglandular detoxication exercises a protective power on the central nervous system. The thyroid has especially the power of splitting off iodin. The iodin stored in the thyroid never leaves the boundaries of that organ. Blum can not subscribe to the prevalent view that the parathyroids play a separate and distinct rôle. He accepts the dictum of Kishi, who says morbus basedowii can not be the result of hypersecretion of the thyroid, since the thyroid normally produces no secretion. The assumption of thyroid insufficiency alone can justify the foregoing observation. Basedow's disease must be treated by a diet free from meat. Kishi claims that his therapeutic results are as good as those obtained by surgical measures and, being without danger, are to be preferred. According to his view, the operation which reduces the thyroid mass is to be abandoned.

VIEWS GENERALLY ACCEPTED.

The large majority of writers hold views opposed to the foregoing. The views entertained at present are that the thyroid and parathyroids differ embryologically, histologically, anatomically and functionally. The removal of all parathyroids in man and in many animals is followed by tetany and death; the removal of the thyroid by chronic nutritive disturbances which make up the picture of cachexia strumipriva, eventually ending in death. Erdheim's experiments on rats for the demonstration of the consequences of the destruction of the parathyroids led him to assert that not the loss of thyroid substance but the destruction of the parathyroids is followed by tetany, and he furthermore was able to prove that in three cases of strumectomy, followed by tetany, the parathyroids were wanting or had been destroyed. McCallum in his experiments on dogs found tetany to follow the removal of the parathyroids, and so did a host of noted observers. Death from complete parathyroidectomy may be deferred for a time by feeding with beef parathyroids, and acute tetany entirely prevented, as demonstrated by Halsted, McCallum, Beebe and Rogers. Feeding with thyroid extracts or iodin-containing albumins, iodothyrin and similar preparations will overcome many symptoms of cachexia strumipriva and prolong life. After the removal of the thyroid gland the parathyroids never change structurally, never get to be like, never resemble thyroid tissue and never assume its functions. The removal of both is followed by death, the chronic symptoms perhaps predominating.

ANATOMY AND PHYSIOLOGY OF THE PARATHYROIDS.

The knowledge of the anatomy of the parathyroids and their arterial supply has by the labors of Halsted, Evans, McCallum and others become quite exact. On a few points the observations differ slightly. First as to the number of parathyroids in man; four is the usual number; there may be fewer and occasionally one more. Verebely found four parathyroids in 108 out of 138 autopsies. Thompson and Harris in 250 routine autopsies in the St. Louis City Hospital found four parathyroids in 90 per cent. of the cases. They also found in their experimental work that the *symptoms resulting* from slow deprivation of functionating parathyroid tissue differ materially from those following extirpation of the glands. The slow deprivation of functioning parathyroids was produced by as complete devascularization as possible. The animal (in their cases the dog) dies eventually; but instead of the acute tetanic death which follows excision, with slow *destruction of the glandules*, the animal loses in weight and strength, disturbances of a trophic character ensue, and finally a comatose *condition ends the scene* without tetany.

These observations are not quite in accord with the presentation of the subject in the classical article on "The Parathyroid Glandules, Their Blood Supply and Their Preservation in Operation on the Thyroid Gland," by Halsted, an article which has been closely studied and much quoted. Halsted distinctly warns against interference with the parathyroid arteries, whether coming directly, as they usually do, from the inferior thyroids or from the channel. Ernst Hagenbach, in his valuable contribution on "The Function of the Thyroids and the Parathyroids," finds that injury or destruction of the parathyroid arteries of one side is followed by a passing tetany, then cachexia and death by cachexia; destruction of the arteries of both sides results in death in acute tetany; removal of the thyroid and of the inner parathyroids, saving the external ones produces no tetany but the development of cachexia; secondary removal of the external parathyroids causes death from tetany.

RELATIONSHIP OF THE DUCTLESS GLANDS.

Recent studies of the ductless glands or organs producing an internal secretion, hinting at the intimate interdependence of the thyroid, the parathyroids, the adrenals, the glandular part of the pituitary body, the liver and the pancreas, seem to show that the physiologic rhythm of the body demands the integrity of all. A pathologic condition of one of them calls for an attempt at a *restitutio ad integrum*—unless some other organ vicariously assumes its function — an attempt, aiming in fact at a therapeutic ideal, not reached by the method which removes or destroys.

Take, for an illustration, exophthalmic goiter. The thyroid has been proven to be a gland deserving to be ranked as a vital organ. The best results have been obtained, we all believe, by the removal of one-half or three-fifths or, with the saving of the parathyroids and their arterial supply, of nearly the whole of the gland. Injury to the parathyroids has been for a time atoned for by feeding with beef parathyroids, with Beebe-Rogers serum, or the transplantation of parathyroid tissue into the spleen, culminating in the beautiful and logical method of Halsted. Similarly, removal of too much of the thyroid has been counterbalanced by the administration of thyroid extracts or iodin-containing albumins.

NONOPERATIVE TREATMENT.

Measures other than operative may favorably influence some symptoms or the condition. A patient of mine, who was in a most miserable condition with a pulse of 190, delirium cordis, exophthalmos, loss of weight, and muscular tremors improved for a time by the application of ice to the neck and the region of the heart, by absolute rest, a diet free of meat, and belladonna administered for three weeks. The patient gained in weight, the exophthalmos improved, the pulse came down to 100. The patient assumed that he was almost cured. He returned to the hospital after two weeks in almost as bad a condition as before. A repetition of the above outlined treatment improved him sufficiently to prompt me to obtain a permanent result by an operation described later. We have not yet found the non-surgical treatment which gives satisfactory results, although Blum in a rather recent article asserts the opposite.

Professor Guthrie of Washington University, St. Louis, in whose experimental work on the vascular system I have been much interested, included in his experiments work on the thyroid of the dog, and a number of specimens show the results of the reversal of the circulation and the ligation of the arteries and veins. In ligating the veins of the thyroid in dogs he showed that at first, for perhaps three days, there results an edematous swelling of the gland, followed soon by reduction to the normal and finally a small reduction in size and a slightly increased firmness. The dogs then invariably gained in weight. With these proven facts as a basis, the following suggested itself to me. In exophthalmic goiter we have an enlarged gland, an enormous increase in vascularity and capillary dilatation, a multiplication of the thyroid cells with abnormal activity, the presence of a great number of indifferent or vagrant cells and a peculiar change of the thyroid gland cells—the whole condition resembling a reactive process without physiologic termination.

PASSIVE HYPEREMIA BY SURGICAL OPERATION.

The plan then adopted, tried on several dogs, one a goitrous one, gave the results expected. I then tried it on the patient before mentioned. The plan rests on the following proposition: Ligation of the thyroid veins produces dilatation of the capillaries with increased pressure, transudation of blood plasma through the endothelial capillary tubes into the extravascular spaces until the pressure of the plasma in the intercellular spaces equals the pressure in the capillaries. We might count on the escape of some extravascular fluid by the lymphatics. The effect of the transudate at first is a mechanical one; there is a crowding of the cells, an interference with oxygen admission, the retention of carbonic acid, an asphyxia. In this condition the vagrant or indifferent cells, the least fit to survive, suffer a degenerative process and die, while the limitation of arterial afflux brings the gland cells from hyperactivity to the normal. As part of the process the connective tissue stroma would increase and, in the later contraction, lessen the size of the gland—in other words, restore it to a condition near the normal. The result of the experiments on the dog distinctly demonstrates the success of the procedure, which in reality consists in the production of a Bier's passive hyperemia.

At a future time I shall publish the complete history of the case of my patient with observations during recovery and the final late effect. Objections to my suggestion may be made. At present I see one, surely not one to be regarded by the experienced operator; the infinitely greater difficulty of ligating the veins than the arteries. In my case I ligated both inferior thyroid and both superior thyroid veins. I am in doubt whether, on the right, I secured the trunk or only a large branch of the superior thyroid vein.

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DISCUSSION.

Dr. C. H. Mayo, Rochester, Minn., said that the study of the thyroid gland could not be dissociated from that of the parathyroid, thymus, pancreas and adrenal, and, probably, the pineal gland also. The thyroid had the most beautiful circulation in the body, with the exception of the brain; it would be impossible to destroy it except by deliberate act. At one time the thyroid undoubtedly delivered its secretions into the alimentary canal through a duct, and that was why the feeding of thyroid does so much good in some cases. Dr. Mayo said that Dr. MacCarty had made a classification comprising practically all goiters other than malignant; fetal thyroid; fetal activity; then, again, the normal gland activity; retention secretions; and then the degenerative conditions. So much had been written concerning the parathyroids that the surgeon, in any operation in the neck, feared that he might injure a parathyroid. Dr. Mayo said that in operating on over seven hundred goiters he had not had a single case of tetany. In 1896, in three cases, he had removed one parathyroid on the back of the gland. He did not know how many he might have taken out before that, but no symptoms were manifested in the cases where he knew that he had cut a parathyroid. Therefore, Dr. Mayo thought that the functions of these glands must be associated with other conditions. He did not believe that it was quite as serious to remove one of these parathyroids in the exophthalmic type of goiter as it would be in the old simple colloid goiter or diffuse adenoma. Dr. Mayo thought that the operation of ligation of the veins, producing passive hyperemia, which Dr. Tuholske had brought forth, was in the right line in certain cases. Operation was the rule in these cases of hyperthyroidism—and that was the term which should be applied to all of these cases.

Dr. Mayo said that the history of these cases and the classification of the disease from symptoms had been made without any foundation in fact. One spoke of Graves' disease, first described in 1835, of Basedow's disease, first described in 1840, or Parry's disease, first described in 1825. Two symptoms, exophthalmos and goiter, had been taken as of prime significance, whereas 80 per cent. of cases would present either one or both symptoms, and 20 per cent. might show neither the enlarged thyroid nor the exophthalmos. Proir to the appearance of these symptoms, Dr. Mayo said, these patients would be treated for heart disease. The nerve specialist would prescribe rest. The enterologist would call the case one of gastritis and enteritis, and order white meat of chicken and no oysters for the patient. Another treatment which Dr. Mayo said had been advocated was the injection of antitoxin. One might almost read the entire pharmacopeia to cover the history of the treatment of hyperthyroidism. If a patient with heart disease had protruding eyes, Dr. Mayo said, the case was diagnosed as exophthalmic goiter.

He said that ligation should be done in three types of cases. It should first be recognized that 25 per cent. of patients would recover with, without, or in spite of treatment. In very mild cases, which did not justify the removal of half the thyroid, a simple operation of ligating one or both superior thyroid arteries and veins should be done. Another type was so dangerous that there might be a degenerated heart muscle, possibly brown atrophy with soft spleen, with nephritis albumin in urine, and fatty degeneration of liver. The physician might be afraid to operate. If under cocain anesthesia, ligation of first one artery and then the other, with the accompanying vein were done. Dr. Mayo said, the patient would improve. In another type of cases the right and middle lobe would perhaps be extirpated and the patient would improve; if there was insufficient improvement, or a relapse, it should not be considered a mistake to have operated on that thyroid. Ligation of the superior thyroid artery and vein on the other side would have a remarkably good effect in such cases.

Dr. Mayo said that last January he and his colleagues had gone over the last 200 cases of exophthalmic goiter and sent out 190 letters. (Ten patients, 5 per cent., had died from operation.) They had received 167 answers to these letters. Seventy per cent. of the patients were cured, and 89 per cent. had either been cured or greatly improved. A few more cases brought the percentage up to 94 per cent. cured, greatly improved or somewhat improved. Some were not improved at all. In some cases, Dr. Mayo said, surgery could do anything but many of these cases were treated so long medically that the burden of surgical mortality was of necessity much greater than it should be; it ought to be called medical and surgical.

Dr. A. J. Ochsner, Chicago, said that there was no operation in the entire field of surgery in which the importance of knowing when and how was greater than in this particular operation for exophthalmic goiter. The surgeon did well to operate when the patient's condition was at a standstill or, in general, reasonably good, so that resistance to the slight shock of operation might be counted on. When there was no resistance left, the results of operation would be exceedingly bad. Dr. Ochsner mentioned another class of advanced cases in which the other organs of the body still were sufficiently good, so that if the patient's temporary condition were improved the immediate, as well as the late result, would be good because the absorption of the thyroid secretion would be stopped. Recovery, however, would be slow. Dr. Ochsner said that much had been learned from Kocher, Mayo and others; namely, that in the operation itself the patient could be protected, first, by reducing the trauma; second, by preventing shock, especially in cases which have gone too long before operation, and by performing preliminary operations in these cases, such as Dr. Tuholske and Dr. Kocher had recommended, or by following the method of Charles Mayo, of dividing the operation into two stages. There was no operation in surgery that had improved so much during the last ten years, both as regards the choice of time and the number of operation as this one.

CASES OF VERY GENERALIZED POLYNEURITIS.*

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The purpose of this paper is to present two cases of polyneuritis, which, so far as I know, present features which are unusual and appear to me to be of much interest. In the first case the patient had the added distinction that he had two attacks, in some respects alike, at intervals of thirteen years.

Case 1.—*History.*—A. R., aged 13, of a healthy family, was seen Jan. 3, 1891. He gave a history of having ached all over for four weeks, of his face being drawn to the left side for three weeks, and of pains in his face and limbs.

Examination.—When I saw him he still suffered sufficiently to disturb his night's rest. He had double facial paralysis. The upper and lower branches of the seventh nerves were affected, but the paralysis was not complete, as the eyes could be feebly closed. The electrical reaction of the facial muscles were those of degeneration—loss of faradic contractility, "tardy" reaction to the galvanic current, with the normal formula reversed. The patient also had an unsteady gait. The muscles of the legs were weak but not distinctly paretic. They responded to faradic electricity, but only to a rather strong current. The knee jerks could not be elicited. The urine was normal; sensation, special senses, disks, pupils, etc., were normal. The patient gradually improved.

March 28: It was noted that the facial paralysis had disappeared on the left side and nearly so on the right.

May 25: A note stated that the patient was well, but the knee jerks could not be elicited.

The patient now remained in good health for 13 years, though in 1896 he was examined merely for the purpose of learning the state of the knee jerks, and they were found to be normal.

Subsequent Examination.—I was called to see him again Oct. 20, 1904, on this occasion in consultation with Dr. Stephen E. Cone. Some ten days prior to this date he began to suffer with aching in his back and legs and, about a week later, with weakness in the legs and face. When I saw him he had a good pulse and normal temperature, but a heavily coated tongue, no appetite, and could not sleep on account of his general distress. He now had complete double paralysis, the muscles presenting the reaction of degeneration. He was weak on his feet so that he could scarcely walk. The knee jerks and Achilles tendon reflexes could not be elicited. The plantar reflexes were present, though slight, and normal, that is flexion. There were no other objective symptoms. For some time the subjective symptoms were, so to speak, the predominant ones. His suffering, aching, pains, etc., was very great, so that with hypodermic injections of morphin and hypnotics he scarcely obtained any relief, and very little sleep. But at the end of about three weeks the subjective symptoms left him, and thenceforth he slept without the aid of drugs. In the meantime his paralysis had steadily increased, reaching its acme about the time the subjective symptoms ceased. A few days after my first visit he was altogether unable to walk.

November 8: Patient could flex and extend toes fairly well; plantar flexion of ankles was quite weak, dorsal flexion nil, extension of knees nil, flexion and adduction quite weak, abduction stronger; hips weak but stronger than the knees. The right leg was a little stronger than the left. The muscles responded to the faradic and galvanic current, but it required a very strong current to produce contraction, especially of the quadriceps. (At a later period the leg muscles most profoundly paralyzed failed to respond to either faradism or galvanism, a fairly strong current having been applied.) Sensation in legs was very slightly blunted. The patient spoke of the bladder and rectum being weak, though there was no retention nor incontinence. This was complained of for but a short time. The patient began slowly to improve, but about December 20 he suddenly got worse, the paralysis increasing beyond what it had been before, and for a short time there were also subjective symptoms.

Jan. 8, 1905: Patient called attention to the fact that the left deltoid was slightly paretic, but this condition was of short duration. It was noted on this date that for several weeks some power of voluntary movement had been observed on the right side of the face, and for several days on the left side, and that he furrowed the brow quite well.

May 28: Two weeks previous to this date he began walking with the assistance of two helpers and at this date he could walk with only the assistance of a cane, but it was with the "steppage" gait, especially noticeable on the left side, the right leg being the stronger. The larger number of muscles had considerable strength. The most decided weakness was in the dorsal flexors of the left toes, extension of the big toe being almost nil. There was some sense of numbness in the left foot. The appearance of the face was not far from the normal.

August 22: Patient could walk up and down stairs unassisted. Chief weakness was in dorsal extensors, ankles and toes. Knee jerks, Achilles tendon reflexes and plantar reflexes could not be elicited.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

September 13: Gait was still improving. Still slight impairment of tactile sensation of left big and little toe. Face still felt stiff and looked unnatural when he laughed. He could not expose upper teeth—paresis of upper lip. When he ate, tears frequently overflowed.

Jan. 15, 1906: Not much change in the face, but the facial muscles responded to faradism. It is well to note that the electrical reactions appeared to be normal, while voluntary control of the muscles had not yet become fully restored. He had an elastic, natural gait, but said he could not run.

February 5: Knee jerks were present, but no Achilles, nor plantar reflexes.

August 3: Knee jerks and Achilles reflexes were present, slightly more marked on the right side. No plantar reflex. Only noticeable defect was that the upper lip and dorsal extensors of toes and ankles had not regained their full strength.

I will again briefly refer to the more striking features of this second attack. The progress for several weeks was steadily from bad to worse, almost as steady as the movement of the clock, and the same was true of the improvement after it had once definitely begun. It was about a year after the onset of his illness that the patient again began to attend his business, and in about one and one-half years he was practically well. It is worthy of note that such extensive and profound paralysis should have left practically no traces.

The paralysis of the legs began in the muscles that move the large joints and only finally affected the toes, and it was in the latter that the paralysis was of longer duration. This is not the history of ordinary multiple neuritis, that is, the paralysis usually begins in the distal parts of the extremities. It is a rule, too, that the muscles first affected are last to recover.

The condition of the reflexes is noteworthy. At the very first examination the knee jerks and Achilles tendon reflexes were abolished, but a normal plantar reflex was present. The latter soon disappeared. It was more than one and a quarter years before the knee jerks returned, and some months longer before the Achilles tendon reflex was found. Even then the reflexes were probably not altogether normal, for they were more marked on the right side—the side which had been less affected—than in the left. The plantar reflex was absent in August, 1906.

The distribution of the paralysis also was unusual. While in multiple neuritis the four extremities are commonly affected, in this case, though the paralysis was extensive and profound, the upper extremities practically escaped. The double facial paralysis, though observed in cases of multiple neuritis, is rare. That there should have been so little anesthesia with such extensive motor paralysis is also uncommon.

With all its unusual features there is no room for doubt of the correctness of the diagnosis. The extent, profoundness and duration of the paralysis, the electrical reactions and full recovery all establish that. The most striking fact is that there should have been two such attacks in the same individual. There was no known cause for either attack, and they were assumed to be due to the grip.

Case 2.—*History.*—Dr. T., aged 29, good family history, good habits, always had good health, never had venereal disease, was an athlete at college. Had been married three years and had a healthy child, one year of age. For six months before his illness he had much worry and mental strain on account of illness in his family and other troubles. The month before he became ill he was very hard worked, and lost much sleep. One warm night, perspiring and exhausted, he threw himself on his bed without clothes or cover, fell asleep, and awoke the next morning chilled through, the temperature having fallen decidedly, and the cold wind blowing on him. He had had some severe pains in the back of his head for about a week prior to this time, possibly due to want of sleep, but he attributed his illness to this chilling, for his aching began immediately thereafter. I saw him July 5, 1907, in consultation with Dr. Ambrose Johnston, three or four days after his symptoms began. He suffered much with aching in his limbs and trunk, and was, therefore, moving constantly from side to side. So great was his suffering that he had just received a hypodermic injection of morphin. For a couple of days he had noticed that he was getting gradually weaker in his legs, and when seen observed that his hands and arms were getting weak. He also had paresthesia, numb, cold feelings, in the distal parts of the upper and lower extremities.

Examination.—On examination his pulse and temperature were found to be normal. Excepting that he was weak in his feet, there was no manifest paresis. All qualities of sensation, tactile, stereognostic, etc., appeared to be normal. Knee jerks and Achilles tendon reflexes could not be elicited. Pupillary reflexes were normal. Plantar reflexes were normal. The patient's condition now steadily grew worse. Four or five days after above date there was manifest paresis of shoulders, hips and knees.

July 12: Patient could not move the arms at the shoulders, nor the legs at the hips or knees, and there was considerable paresis of hands and feet. There was bilateral facial paresis. He had very little power in the muscles of the mouth and cheeks or in the orbicular palpebrarum, but he could furrow his brow well. His voice often became husky so that it was difficult to understand him, and he complained of accumulation of mucus in the throat, which it was difficult to remove. He required strong cathartics, and, at times there was weakness of the sphincter ani. He complained bitterly of paresthesia of the hands and feet. There was tenderness over the sciatics, also in other parts. He could not bear to have the legs extended, because, he said, it seemed to stretch the sciatics and it gave him extreme pain in them. There was still no manifest anesthesia. The paralyzed muscles responded to the faradic current. Plantar reflexes were normal. The patient had been closely watching his symptoms from the beginning. Probably partly from this cause, partly from his suffering, he was in an extremely emotional state. His condition continued to get worse, the power in the muscles of the extremities and face became less, his voice feebler, the accumulations in the throat more annoying and more difficult to remove, swallowing finally impossible (at times, the fluid in his throat would escape from his nose), so that from July 18 he was fed altogether through the stomach tube. About this time for several days he had some fever, highest 102 F. when his pulse was 140. At this time his physician believed, on account of his manner of breathing and all, that he was about to die. Soon after that his condition began to ameliorate somewhat, probably due in part to his receiving sufficient food, which had been taken in very small quantity prior to this time.

July 25: There was almost absolute paralysis of the four extremities, no abdominal, cremasteric or plantar reflexes. Strength of abdominal muscles seemed normal. Some impairment of sensation. Astereognosis in both hands. Patient had no stools without the aid of drugs and the nurse had to use his fingers. There were variations in the facial paralysis, one day eyes was somewhat restricted, especially in an outward direction, and the patient spoke of occasional double vision.

August 5: Decided anesthesia noted in hands and feet, and lower parts of arms and legs, and astereognosis. There was more marked paresis of the left abducens. There was very little power manifest in the left hand and elbow and right fingers. There were variations in the facail paralysis, one day one side of the face would be more paralyzed, the next day the other; the one day he could not furrow the brow, the next day he could furrow it. Accumulations in the throat had ceased, and patient could swallow saliva better, but still used the stomach tube.

August 15: Could swallow well; discarded stomach tube a week previously. Strength of upper extremities had increased, some power of movement in all the joints, minimal power of movement observed in feet. Facial paralysis less.

August 26: Fair strength in muscles of face and upper extremities. In lower extremities some power manifested in muscles above the knees, none below. Still anesthesia of feet and hands. Movements of eyes better, but still somewhat limited.

September 7: Movement of eyes and muscles of face normal. Hands stronger. Some power manifested in all the muscles of lower extremities. Tactile sensation everywhere was fairly good. But there was some astereognosis; impairment of muscular sense and ataxia in the hands.

October 2: Strength of muscles and all qualities of sensation appreciably normal, excepting some weakness of the anterior tibial and peroneal groups of muscles, and slight impairment of sensation over the little toes. Knee jerks and Achilles tendon reflexes absent. Plantar reflexes could not be properly examined because of great sensitiveness of the soles of the feet.

November 21: Had been at work again for the past three weeks. Discarded a cane one week previously, walked well, and could run and jump, but not well. Some patellar tendon reflex present—occasional response. No Achilles tendon reflex. No plantar reflex. He still had numb tingling sensation on the dorsum of the feet, and occasionally in the fingers. There was also hyperesthesia of the feet, so that he could scarcely touch them without distress, and he could barely stoop to take off his shoes because it caused a pain in thighs and hips. His greatest complaint was that it took so long to fall asleep at night.

I examined him some six months later. His reflexes were normal, and he had been feeling quite well for several months.

This case can scarcely be considered otherwise than as one of multiple neuritis. Its manner of development, marked sensory symptoms and complete recovery after the extensive paralysis presents a clinical picture altogether unlike that of poliomyelitis anterior. In the recent epidemic of poliomyelitis in New York cases were reported which were very different from the ordinary disease, cases with very pronounced and widespread paralysis, presenting cerebral as well as spinal symptoms, in which there was speedy and complete recovery. But these cases appeared to be altogether in young children, and in addition to the fact that no epidemic cases appeared in Cincinnati the history in this case differed in many essentials from those just referred to.

Apart from the very widespread paralysis this case is certainly striking in many ways. The degree of suffering was excessive, even for a case of multiple neuritis. It was the earliest symptom and remained to a degree after other symptoms were practically gone. The sensory paralysis, the anesthesia, considering its extent and degree, was very late in its appearance. It, as well as some of the pains and motor paralysis, was rather sudden in its disappearance. The patient had always been a healthy man and came from a healthy family, but the manifestations last mentioned as well as some others made it appear that there might be no inconsiderable hysteric element in the case.

The electrical tests of the paralyzed muscles were not altogether satisfactory. His suffering and sensitiveness were such that usually no satisfactory examination could be made, but on several occasions some of the paralyzed muscles failed to respond to a strong faradic current. The comparatively early recovery of the muscles makes it probable that there had been no great changes in the electrical reactions.

As in the first case reported, the pronounced paralysis was first observed at the large joints and not in the distal parts of the extremities, as usually occurs in multiple neuritis.

DISCUSSION.

Henry W. Freudenthal, of New York City: I would like to ask whether iodide of potassium was used in either of the cases reported, and whether there was a history of syphilis and what the reactions were?

Dr. Zenner said in reply to the question that there was no iodid given in the cases, and no syphilis found. There were the usual manifestations of reaction of degeneration in the muscles of the face while in the lower extremities a very strong current failed to produce any contraction in some of the muscles in the first case. In the second case the examination for electric reactions was unsatisfactory on account of the pain which it produced. At times, with the current strong, no reaction whatever was obtainable. But inasmuch as there was complete recovery in a comparatively short time, the chances were that there were no considerable changes in electric reactions.

PATHOLOGY IN DENTAL COLLEGES.*

L. G. NOEL, M.D.
NASHVILLE, TENN.

Believing the course of study in pathology in dental schools defective in many respects and that it has not occupied the high place in the curriculum of study that its importance deserves, I conceived the idea of addressing a letter of inquiry to the various dental colleges in America. This was done with a view to comparing the methods pursued in this study, and with the hope of ultimately arriving at some improvement in teaching, perhaps causing the adoption of a uniform course of study. The body of the letter follows:

> Wishing to acquaint myself with the methods employed in the leading dental schools in teaching dental pathology, and to ascertain to what extent students are taught the general principles of pathology in these colleges, I address you this letter, begging that you will kindly reply at your earliest convenience, setting forth as briefly as possible the methods pursued, in your school, in teaching this branch, the text-books employed, the extent of your requirements in examination, etc.
>
> Believing there is need of improvement in the teaching of this important branch in nearly all of our dental schools, I am seeking by a comparison of methods to arrive at some correct conclusions about needed reforms. After stating briefly what you are doing in this teaching, I will thank you to point out also the improvements you conceive to be needed.

Forty-three letters brought twenty-five replies, a result showing, I think, a lively interest in the subject, especially when we consider that these inquiries were made during the month of January at the busiest part of the term and that the answer entailed considerable painstaking labor.

It would be instructive to reproduce all these letters here, especially as they come from the most eminent writers and teachers in our profession, but to do this would take up too much time and space, and I must try, therefore, to give briefly the salient points gleaned from this correspondence.

In several instances I wrote a second letter to draw out my correspondent more fully, to call attention to a question he had omitted to answer, or to ask another. Many of my correspondents sent carefully prepared syllabi of the course of study in pathology in their respective schools and these will be very useful in formulating a uniform course. It is apparent from these letters that very little laboratory work in biology, bacteriology and pathohistology is being done in our colleges, for the simple reason that we lack time for any satisfactory pursuit of such work under the three years course. Several of our more important colleges were planning to construct laboratories, and to commence such a course when the brief period of the four years course was so suddenly terminated. Several of our schools are doing some work in pathohistology in connection with the studies in biology, bacteriology and histology, but this work is necessarily defective for want of time. There can be no question of the value of this method of teaching pathology. The student should pursue here the same methods of study as in anatomy, chemistry and histology, a practical training in laboratory processes.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Two letters from Dr. G. V. Black and two from Dr. James Truman show how these eminent teachers have labored under the difficulties caused by lack of time to give the training each felt so important for the life work of the dentist. Dr. Black in his reply to my second letter says:

DR. BLACK'S REPLY.

I have read your letter of February 13 with some care, and will say that in bacteriology, which is part of my own subject, one of my assistants, Professor Willard, doing the work, three hours a week are given to laboratory work during the whole year. There is quite a little done in the histologic laboratory in the pathology of the teeth, but the laboratory work in general pathology, and also in physiology, is not up to the standard that I should like to have. This is not because we have not room, or anything of that kind, but simply because we have not the time in our course to do that work. When it was arranged that we should have a four years' course, we were building, and I had planned for a physiologic laboratory and a pathologic laboratory for general pathology; but, as we did not get the time—the four years—we have been compelled to leave them out. I hope some of these days to be able to do this work; it ought to be done in every dental school.

Replying to a second letter of inquiry on this subject Dr. James Truman first calls my attention to his "Annual Fasciculus," which he sent me, in which is outlined the pathologic work in his school; then he says:

DR. TRUMAN'S REPLY.

You ask me for my opinion of "How to make the best of this work in the three years allotted us?" Each school naturally deems its plan the best with the limited time given. I must repeat that dentistry, and all branches included in that name, can not be taught in three years. At the best the student acquires a superficial idea of the work, and must depend on experience to fill up the lost spaces. When our department came under my care in 1883 I tried to bring to bear the experience of twenty years in another school. The guides were not many, and most of these were antagonistic to my own views in regard to teaching. This period was that which fell on dentistry between the old skilled mechanical metal workers and the unskilled rubber operators. In these years dentistry lost much, in fact, the working of the noble metals was practically a lost art. I felt that this should not be permitted, and that it must be taught, as the time would come when that skill would be needed. To accomplish this, I organized technical branches in the mechanics and operative in the freshman year. Having no guides, for these were not, I think, generally established, the beginning was somewhat crude, teachers had to be trained. Since then this original idea has been expanded until the first-year men now must go through the whole process from the making of metal work, etc.; and in the operative, from the beginning, an art student having charge of the modeling. The freshmen, as a rule, do not come to the living patient during the year.

The course thus subdivided between the three years, for it is extended in part over all, works as well as could be expected, and now that gold is so much used for crowns and bridges, as well as the base for artificial dentures, I feel that my earlier efforts in this direction have had full fruition. I do not wish to be understood as claiming any special original credit for the technic work; this seems to come as a spontaneous need, perhaps not as I saw fit to start it.

The announcement sent you will explain the amount of time given to each branch, and I think it must be evident that the association of faculties made the mistake of its life when it killed the four years' course. The undergraduates reach the third year with much of mechanical, as well as theoretical knowledge, but with the operative largely theoretical. With some, I need not say to you, this may be sufficient, but the large majority have knowledge without skill. This is true of every school in the United States, in my opinion. In order to secure something of every study every one must be limited to a certain number of hours, and the test of knowledge must be examinations. If any set of teachers have been able to reduce this to an exact science I am not acquainted with them. To make the three years available, the subjects must be cut to fit the time. I am utterly opposed to the method, whether in our own school or any other. I will not live to see five years in undergraduate life, but I sincerely hope that the time will come when a dentist will be required to take as many years to study this complex profession as a bricklayer takes to lay brick. I do not know that I have answered your query, but perhaps you can glean something from it.

Surely we shall glean much from the statements of this earnest and conscientious teacher, who thus so frankly states the difficulties under which he has labored. It is probable that Dr. Truman's letter suggests these questions: What has the gold work in dental college to do with the study of pathology? Why does not Dr. Truman speak to the subject and answer briefly the query above quoted? Why do I reproduce so much of a letter that is apparently not germane to the subject? I will try to answer these questions and make my position plain.

Dr. Truman has for years been engaged in the practice of dentistry, in teaching dentistry, and in contributing to the literature of dentistry. He has not lived for selfish ends, but has endeavored most conscientiously to impart to his students the things needful to fit them for the practice of dental and oral surgery. Dentistry is a peculiar profession. It is unlike any of the other specialties of medicine, in that it is a texture made up of a warp of scientific facts with a woof of mechanical skill and handicraft. You can not separate the woof from the warp and maintain the integrity of the fabric. That Dr. Truman views the subject in this light is evidenced in this second letter from which I have quoted. It is difficult to bring the old practitioner to see the question in any other light, and especially is this true of the faithful teacher who knows what is required of him, and has personally felt the responsibilities the student must meet when he leaves the college and goes out to practice.

Feeling the importance of this practical training, as well as the need of the scientific knowledge as a foundation, Dr. Truman has endeavored to show how he has battled with these difficulties as best he could, trying to impart the most fundamental truths of each study in order that the student may continue his studies after graduation.

THE CAUSES FOR CRITICISM.

Dental colleges are often severely criticised by members of the profession who are not engaged in teaching, and who are therefore not familiar with the many and various difficulties that must be encountered. The arraignment is especially severe that so much time is devoted to mere mechanical training, to the operatory and prosthetic laboratory to the neglect of more important fundamental scientific studies.

This complaint, it must be admitted, is just; it is an evil that should be remedied. We all admit that, but we do not yet see our way to correct it. It is not a new complaint, for the trouble commenced in our two oldest dental schools shortly after they were founded. I remember seeing, years ago, somewhere in our literature as coming from Dr. James Taylor, this same complaint: that it was always difficult to get the students to leave the practical work of the operatory and laboratory, and attend regularly the lectures on the five fundamental scientific studies. Thus, it has, on account of the texture of our cloth, if I may be allowed to return to my simile, been ever with us from the beginning down to the present day, the same difficulty, except that it is growing.

We have lengthened the course of study but one year since the founding of the earliest dental schools, and this increase of time is utterly out of proportion to the growth of scientific knowledge, to the addition of biologic, histologic and bacteriologic lore, not to mention *other things, that must be taught.*

It is important now, as it was in the days of Chapin A. Harris and James Taylor, for the dental student to acquire manual skill. He comes to us for that, and when we send him forth from our colleges we give him a diploma which states to all the world that he is competent to practice the science and art of dentistry.

Why need we fall into the error of taking a one-sided view of this subject? We must not neglect those scientific studies which are the foundation of our art. Science is the foundation of all art, for painting, sculpture, music, architecture, etc. The painter must be an anatomist if he would portray the human form, the sculptor must be an anatomist if he would produce in marble the divine effigy.

SCIENCE OF FIRST IMPORTANCE.

Then if science is the foundation for our art it must necessarily take first place. If the time is too short for the needed study at school, and aught must be left unfinished, it must not be the foundation on which our superstructure is to rest; this must be securely laid that the building may be placed thereon, not hurriedly and defectively, but by gradual and careful accretion, until it stands complete, skilfully wrought, a thing of beauty.

Thus we dream of our work as teachers, but of how many educations commenced in our classes do we see even the foundations fairly completed? As teachers we must, for lack of time, as has been pointed out by Drs. Black and Truman, try to teach something of all the essential fundamental sciences, though giving but a superficial and unsatisfactory training in each. We must try to economize the student's time, working together to this end, eliminating from our requirements all useless technic work and substituting in its place such scientific training as we deem more important.

In the light of the recent great and brilliant contributions to our knowledge of pathology by such men as the late Dr. W. D. Miller, and our own beloved Dr. Talbot, I think I need not urge that our students should be taught as much pathology as possible while they are in the formative undergraduate state.

Whatever must be slighted in the preparation of our students for practice, it must not be these great studies on which the ability to recognize disease must depend. How can we hope for the application of intelligent therapeutic measures, or the inauguration of effective prophylactic treatment, without a knowledge of etiologic and pathologic conditions?

We must all admit that in many of our schools much time is consumed in technic work, which if not useless, is at least of minor importance when compared to the study of pathology. A dentist may be an operator of the rarest skill, but if without pathologic training he will be a failure as a practitioner, because he is without diagnostic discernment, without guides for the application of his skill. The infirmary is the best place to teach the application of the principles of pathology, and the student should be admitted early to the operatory for the acquisition of this training. I shall not attempt to say how early students should be admitted, that question must be decided by each school according to its own peculiar conditions, but it is clear to me that students should enter the operatory during the junior year.

Here we must show the student how to recognize the beginnings of systemic disease by its manifestations in *the oral cavity, teach him how to arrive at correct conclusions* and how to apply the various prophylactic and therapeutic measures available to the practitioner.

I must confess that at the time of this writing my thoughts in these subjects may be influenced and on some points at issue intensified somewhat by recent criticisms on dental education that have appeared in our journals. This is why I am endeavoring to show the peculiar features of dentistry as a profession even at the risk of tedious prolixity.

AN UNFAIR COMPARISON.

Our critics are comparing our methods with those pursued in medical schools, drawing therefrom conclusions unfavorable to us. The conditions to be met, the pursuits to be followed are very different. We must prepare our students to take up and practice a branch of surgery that is so exacting in its demands for manual skill that our state boards, many of them, require the candidate for a license to practice to perform certain operations in the presence of the examining board, which work is graded by the board and becomes an important factor in fixing his standard and deciding his fate.

Are such methods pursued by medical boards? Is the candidate for license to practice medicine and surgery required to amputate a limb, to ligate an artery, to operate for appendicitis, or to meet a crisis of any kind in medical practice? No, he may be asked how he would do these things, but is never actually required to perform the operations.

The state boards of examiners are made up of men many of whom obtain their appointments not because of mental and professional qualification for the place, but merely through political preferment, and regardless of their fitness for this work. Many of them are so ignorant that they could not themselves answer correctly one-half the questions they put to the candidates who come before them, yet these are the very men who are most severe in their criticism of dental colleges.

THE PROBLEM TO BE MET.

We must prepare our students to encounter these state boards, and when they fail before them we are censured for the failure. This explains why so much time is devoted to the mechanical and the manual, often to the neglect of the mental culture of the dental student.

We must prepare the student not only to pass the state board, but to commence practice, to compete with the old practitioner to earn his livelihood. We owe to him all this, it is what he comes to us for and what we have promised him. It is in most instances what he sadly needs, for seldom has he a large fund of available cash on hand at graduation.

We find ourselves as teachers navigating a stormy sea of criticism betwixt Scylla and Charybdis. Some of our critics are clamoring for all science, others seem to be for all technic and infirmary practice. We know that these things are to each other as the right hand is to the eye; that one cannot say to the other, "I have no need of thee." Fair science is the handmaid of art; science may be said to be the eye itself, but art is the right hand.

Then let us proclaim a truce to carping criticism and look the field over reasoning calmly together for betterment. The first step toward a remedy is clear and it is our duty as teachers to take it without delay. We must endeavor to bring the National Association of College Faculties to return to the four years' course, and if we fail in this effort, then I am in favor of making an appeal to all schools of dentistry of good standing in the United States, whose faculties are willing to lay aside all selfish motives and work for a high standard, to withdraw from the association and form a new organization which will adopt a longer course of study and inaugurate such other reform measures as we may deem necessary.

Some points brought out in my correspondence I hope to have further elucidated in the discussion of the subject. These relate to the preparation of the student for the taking up of this study, the order of this preparatory work, the time when the study of pathology shall actually commence and the order in which it shall be pursued.

DISCUSSION.

Dr. Eugene S. Talbot, Chicago: I agree that a four or five years' course is necessary; yet improvements can be made and should be made at the beginning of the next course President Eliot of Harvard recently stated that there is no necessity of the student's taking four years to do the work that could be done in three. There are men who graduate from Harvard in three years. In the dental school considerable obsolete material, now used for padding, could be cut out of lectures. Considerable time is wasted by students for want of system and opportunity to fill all the hours. Students entering dental schools should be required to graduate from high schools in which are taught physics, chemistry and biology, the last including zoology, which also includes evolution. Dentistry can not be taught to-day without these studies.

Medical schools devote three or four years to all the other specialties of medicine while the dental school spends the entire three years on one specialty. Subjects of the most vital importance to the dentist are omitted or only hinted at and of these he is entirely ignorant when he begins practice. First and most important of these is oral hygiene. Cleanliness should be the religion of the institution in which the student receives his instruction. This method naturally requires that the teacher and building be kept as cleanly as the surgeon and his operating-room. The first lesson taught the student in the clinic before operating on patients should be to place his own mouth in an hygienic condition as well as the patient's.

Most teachers discourse on diseases of the gums and alveolar process as pyorrhea alveolaris. It is an impossibility to teach students the pathology of these tissues under such a name After the student learns what the term means he is all at sea when the different stages of inflammation are met with. He must always look for pus and if no pus is present, there can be no "itis." I do not care whether the disease is called interstitial gingivitis or alveolitis; both are good terms. The term pyorrhea alveolaris should be used when pus is present. Few teachers on orthodontia give an intelligent course on etiology of deformities of the jaws and irregularities of the teeth. Another great mistake of some teachers is the invention of a new pathology to fit some particular mechanical hobby to advertise themselves. What is needed in dental schools is a better educated class of teachers to give a broader course.

Dr. M. H. Fletcher, Cincinnati: We are not all blessed with patients who can or will pay for services rendered by a physician or highly skilled stomatologist to treat diseases of the mouth. What are these people to do? Let us put ourselves in the position of some poor fellow who has no money to pay except for extraction and for a set of store teeth when the natural teeth are all gone. I have for years been an advocate of advertising dental offices, provided they have men to do this kind of work properly. Were we to have none but the highly educated practitioners, the probabilities are that many people would have to go without treatment and become toothless; or else men capable of more successful careers than those promised here, would necessarily deteriorate into that kind of practice at a very small price. On the other hand, there is a large clientele requiring what most of us can not give—treatment from the most highly skilled men that can be had, trained in anatomy, histology, pathology and diagnosis. I am thoroughly in accord with Dr. Talbot as to the failure in most of our dental colleges to teach pathology adequately in preparation for the practice of stomatology. Nomenclature is a point which has caused me a great deal of chagrin at times. Medical men say, for example, "You do not have in the text-books any description of the disease known as pyorrhea alveolaris." I would advocate every method that can be adopted to increase the knowledge of our students in the line of pathology and the treatment of disease.

Dr. M. L. Rhein, New York: I agree with Dr. Talbot as to the necessity for a generally better education, both of the teacher and student. Until we reach the same educational plane that practitioners in general medicine must attain, it is absurd for dentists generally to speak of dentistry as being on an equal footing with general medicine.

The subject of the teaching of pathology is one on which I feel very strongly. It is almost impossible to teach pathology of a part of the body until the student has not only had proper instruction in, but has shown by his examinations a proper understanding of, general pathology.

Dr. N. S. Hoff, Ann Arbor, Mich.: The teaching of the subject of pathology is difficult, and I do not think it all depends on the extent of the student's preliminary education, neither does it depend altogether on the education of the teacher. Sometimes a student who is not what we call well educated gains a good understanding of pathology. On the other hand, a student with the very best recommendations, may disappoint us by turning out to be an inferior student. I hesitate to criticize the attitude that the dental colleges have taken towards the matter of preliminary education.

Vida A. Latham, Chicago: Pathology comes a little too early in the present course of instruction. Pathology presupposes and accepts a knowledge of everything gone before; it takes in physiology, anatomy, general medicine, general pathology, surgery, etc. When we get it in the first and second years, as we do in many schools, it is difficult for a teacher of pathology to get the student to understand and make the references to all classes of work. A teacher gives a few points to learn by heart, and as a rule the student is not required to learn anything outside of that. I think the system of teaching in Michigan University some years ago, which required the student to look up branch or essay subjects, was one of the best incentives to a student to obtain a broader education in dentistry.

The literature of pathology, written by medical men as a rule, unfortunately, does not apply to conditions of the mouth particularly, as the tumors and pathologic conditions of the mucous membrane, the salivary glands, lymphatics of the mouth, etc., are not sufficiently known. I doubt if any one

This complaint, it must be admitted, is just; it is an evil that should be remedied. We all admit that, but we do not yet see our way to correct it. It is not a new complaint, for the trouble commenced in our two oldest dental schools shortly after they were founded. I remember seeing, years ago, somewhere in our literature as coming from Dr. James Taylor, this same complaint: that it was always difficult to get the students to leave the practical work of the operatory and laboratory, and attend regularly the lectures on the five fundamental scientific studies. Thus, it has, on account of the texture of our cloth, if I may be allowed to return to my simile, been ever with us from the beginning down to the present day, the same difficulty, except that it is growing.

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In the light of the recent great and brilliant contributions to our knowledge of pathology by such men as the late Dr. W. D. Miller, and our own beloved Dr. Talbot, I think I need not urge that our students should be taught as much pathology as possible while they are in the formative undergraduate state.

Whatever must be slighted in the preparation of our students for practice, it must not be these great studies on which the ability to recognize disease must depend. How can we hope for the application of intelligent therapeutic measures, or the inauguration of effective prophylactic treatment, without a knowledge of etiologic and pathologic conditions?

We must all admit that in many of our schools much time is consumed in technic work, which if not useless, is at least of minor importance when compared to the study of pathology. A dentist may be an operator of the rarest skill, but if without pathologic training he will be a failure as a practitioner, because he is without diagnostic discernment, without guides for the application of his skill. The infirmary is the best place to teach the application of the principles of pathology, and the student should be admitted early to the operatory for the acquisition of this training. I shall not attempt to say how early students should be admitted, that question must be decided by each school according to its own peculiar conditions, but it is clear to me that students should enter the operatory during the junior year.

Here we must show the student how to recognize the beginnings of systemic disease by its manifestations in the oral cavity, teach him how to arrive at correct conclusions and how to apply the various prophylactic and therapeutic measures available to the practitioner.

I must confess that at the time of this writing my thoughts in these subjects may be influenced and on some points at issue intensified somewhat by recent criticisms on dental education that have appeared in our journals. This is why I am endeavoring to show the peculiar features of dentistry as a profession even at the risk of tedious prolixity.

AN UNFAIR COMPARISON.

Our critics are comparing our methods with those pursued in medical schools, drawing therefrom conclusions unfavorable to us. The conditions to be met, the pursuits to be followed are very different. We must prepare our students to take up and practice a branch of surgery that is so exacting in its demands for manual skill that our state boards, many of them, require the candidate for a license to practice to perform certain operations in the presence of the examining board, which work is graded by the board and becomes an important factor in fixing his standard and deciding his fate.

Are such methods pursued by medical boards? Is the candidate for license to practice medicine and surgery required to amputate a limb, to ligate an artery, to operate for appendicitis, or to meet a crisis of any kind in medical practice? No, he may be asked how he would do these things, but is never actually required to perform the operations.

The state boards of examiners are made up of men many of whom obtain their appointments not because of mental and professional qualification for the place, but merely through political preferment, and regardless of their fitness for this work. Many of them are so ignorant that they could not themselves answer correctly one-half the questions they put to the candidates who come before them, yet these are the very men who are most severe in their criticism of dental colleges.

THE PROBLEM TO BE MET.

We must prepare our students to encounter these state boards, and when they fail before them we are censured for the failure. This explains why so much time is devoted to the mechanical and the manual, often to the neglect of the mental culture of the dental student.

We must prepare the student not only to pass the state board, but to commence practice, to compete with the old practitioner to earn his livelihood. We owe to him all this, it is what he comes to us for and what we have promised him. It is in most instances what he sadly needs, for seldom has he a large fund of available cash on hand at graduation.

We find ourselves as teachers navigating a stormy sea of criticism betwixt Scylla and Charybdis. Some of our critics are clamoring for all science, others seem to be for all technic and infirmary practice. We know that these things are to each other as the right hand is to the eye; that one cannot say to the other, "I have no need of thee." Fair science is the handmaid of art; science may be said to be the eye itself, but art is the right hand.

Then let us proclaim a truce to carping criticism and look the field over reasoning calmly together for betterment. The first step toward a remedy is clear and it is our duty as teachers to take it without delay. We must endeavor to bring the National Association of College Faculties to return to the four years' course, and if we fail in this effort, then I am in favor of making an appeal to all schools of dentistry of good standing in the United States, whose faculties are willing to lay aside all selfish motives and work for a high standard, to withdraw from the association and form a new organization which will adopt a longer course of study and inaugurate such other reform measures as we may deem necessary.

Some points brought out in my correspondence I hope to have further elucidated in the discussion of the subject. These relate to the preparation of the student for the taking up of this study, the order of this preparatory work, the time when the study of pathology shall actually commence and the order in which it shall be pursued.

DISCUSSION.

Dr. Eugene S. Talbot, Chicago: I agree that a four or five years' course is necessary; yet improvements can be made and should be made at the beginning of the next course President Eliot of Harvard recently stated that there is no necessity of the student's taking four years to do the work that could be done in three. There are men who graduate from Harvard in three years. In the dental school considerable obsolete material, now used for padding, could be cut out of lectures. Considerable time is wasted by students for want of system and opportunity to fill all the hours. Students entering dental schools should be required to graduate from high schools in which are taught physics, chemistry and biology, the last including zoology, which also includes evolution. Dentistry can not be taught to-day without these studies.

Medical schools devote three or four years to all the other specialties of medicine while the dental school spends the entire three years on one specialty. Subjects of the most vital importance to the dentist are omitted or only hinted at and of these he is entirely ignorant when he begins practice. First and most important of these is oral hygiene. Cleanliness should be the religion of the institution in which the student receives his instruction. This method naturally requires that the teacher and building be kept as cleanly as the surgeon and his operating-room. The first lesson taught the student in the clinic before operating on patients should be to place his own mouth in an hygienic condition as well as the patient's.

Most teachers discourse on diseases of the gums and alveolar process as pyorrhea alveolaris. It is an impossibility to teach students the pathology of these tissues under such a name After the student learns what the term means he is all at sea when the different stages of inflammation are met with. He must always look for pus and if no pus is present, there can be no "itis." I do not care whether the disease is called interstitial gingivitis or alveolitis; both are good terms. The term pyorrhea alveolaris should be used when pus is present. Few teachers on orthodontia give an intelligent course on etiology of deformities of the jaws and irregularities of the teeth. Another great mistake of some teachers is the invention of a new pathology to fit some particular mechanical hobby to advertise themselves. What is needed in dental schools is a better educated class of teachers to give a broader course.

Dr. M. H. Fletcher, Cincinnati: We are not all blessed with patients who can or will pay for services rendered by a physician or highly skilled stomatologist to treat diseases of the mouth. What are these people to do? Let us put ourselves in the position of some poor fellow who has no money to pay except for extraction and for a set of store teeth when the natural teeth are all gone. I have for years been an advocate of advertising dental offices, provided they have men to do this kind of work properly. Were we to have none but the highly educated practitioners, the probabilities are that many people would have to go without treatment and become toothless; or else men capable of more successful careers than those promised here, would necessarily deteriorate into that kind of practice at a very small price. On the other hand, there is a large clientele requiring what most of us can not give—treatment from the most highly skilled men that can be had, trained in anatomy, histology, pathology and diagnosis. I am thoroughly in accord with Dr. Talbot as to the failure in most of our dental colleges to teach pathology adequately in preparation for the practice of stomatology. Nomenclature is a point which has caused me a great deal of chagrin at times. Medical men say, for example, "You do not have in the text-books any description of the disease known as pyorrhea alveolaris." I would advocate every method that can be adopted to increase the knowledge of our students in the line of pathology and the treatment of disease.

Dr. M. L. Rhein, New York: I agree with Dr. Talbot as to the necessity for a generally better education, both of the teacher and student. Until we reach the same educational plane that practitioners in general medicine must attain, it is absurd for dentists generally to speak of dentistry as being on an equal footing with general medicine.

The subject of the teaching of pathology is one on which I feel very strongly. It is almost impossible to teach pathology of a part of the body until the student has not only had proper instruction in, but has shown by his examinations a proper understanding of, general pathology.

Dr. N. S. Hoff, Ann Arbor, Mich.: The teaching of the subject of pathology is difficult, and I do not think it all depends on the extent of the student's preliminary education, neither does it depend altogether on the education of the teacher. Sometimes a student who is not what we call well educated gains a good understanding of pathology. On the other hand, a student with the very best recommendations, may disappoint us by turning out to be an inferior student. I hesitate to criticize the attitude that the dental colleges have taken towards the matter of preliminary education.

Vida A. Latham, Chicago: Pathology comes a little too early in the present course of instruction. Pathology presupposes and accepts a knowledge of everything gone before; it takes in physiology, anatomy, general medicine, general pathology, surgery, etc. When we get it in the first and second years, as we do in many schools, it is difficult for a teacher of pathology to get the student to understand and make the references to all classes of work. A teacher gives a few points to learn by heart, and as a rule the student is not required to learn anything outside of that. I think the system of teaching in Michigan University some years ago, which required the student to look up branch or essay subjects, was one of the best incentives to a student to obtain a broader education in dentistry.

The literature of pathology, written by medical men as a rule, unfortunately, does not apply to conditions of the mouth particularly, as the tumors and pathologic conditions of the mucous membrane, the salivary glands, lymphatics of the mouth, etc., are not sufficiently known. I doubt if any one knows whether or not we have lymphatics of the teeth. Why do not we make investigations along that line? The illustrations that are seen in the dental museums are usually of the gross anatomy. Where is the work done that would be acceptable, like Professor Shambaugh's work on the internal anatomy of the ear, the lymph spaces? We have no such work. The work of Dr. Broomell, of Philadelpia, is noted as of the best, though he is only a beginner in the subject, and he is perhaps the only man that has done the work in this country. But Dr. Broomell gets little credit for it—where do you hear him quoted? Where are other men who have tried to give us some dental pathology, dental bacteriology, dental histology? With the exception of Dr. Miller, not one has had an incentive to carry the work through. It is persecution to have to work night and day to earn bread and butter that research may be carried on! For that reason scientific dentistry and scientific medicine are the losers. I know laboratory men most eminent in this country and abroad. Have most of them ever received any credit or scientific standing for what they have done? The universities seldom recognize their work; the profession as a whole does not recognize it or seems to think anything but mechanics needed; and we are brought back to the same question: Why should we have professional dentistry taught by ordinary medical men? I think that this Section should make an effort to encourage the carrying on of research and secure laboratory facilities. The Section on Surgery invites men from abroad as guests. Why should not we? Why do we not invite Zigmundy, von Ebner, Zuckerkandl, Walkhoff and Gysi to attend our meetings? Then our meetings would be more largely attended. What we need is scientific dentistry and pathology.

Dr. F. B. Moorehead, Chicago: Three years is altogether too short a time in which to teach pathology. The didactic work given in two brief terms in dental colleges is altogether inadequate so far as the marvelous study of pathology is concerned. That course is not now long enough in the medical curriculum, and it will never be long enough in the dental school. I myself have spent several years in the study of pathology since graduation, and I am not yet inside the portals of the study of pathology.

In my opinion the subject of pathology ought not to be left to the department of pathology alone; other departments should be competent to teach it also. Students should be clinically taught practical pathology in the oral surgery clinic by a man who knows pathology. In that clinic every piece of tissue removed from the human mouth should be subjected by the students of the senior class to microscopic examination and study so that they may get a practical application. No matter how perfect one's preparation, no one can properly teach pathology didactically. It is not a didactic, but purely a laboratory subject. Therefore, we must have laboratories for the teaching of pathology, which presupposes that the student has done the required amount of work in histology. I have shown sections of tissue to senior students who were unable to determine whether a certain section was heart muscle—striated muscle—or connective tissue. A student who does not know normal histology can not intelligently study pathology. He must know normal tissue before he can study abnormal tissue. The student must first have a thorough course in histology, and then must be taught pathology practically. After this the student will be in a position to study the subject intelligently. The most we can hope for, is to prepare the student, in the three years he is with us, to take up the subject as a postgraduate study.

Dr. G. V. I. Brown, Milwaukee: Every one who teaches oral pathology will, I think, agree that there are four difficulties that must be met. First, insufficient time. I was an ardent advocate of the four-year course, and am glad to hear the general sentiment expressed in favor of it to-day. The second difficulty, and a very serious one, is that there is no literature on which any one who undertakes to give a modern course in pathology of the mouth, teeth, jaws, etc., can depend. To frame a course of lectures such as might satisfy one's own idea of what they ought to be if they are to be beneficial to the students, requires a great deal of general work. More books and miscellaneous literature must be consulted than it is really fair to ask students to undertake to go over in following that course of lectures. I meet this difficulty in my work at the University of Iowa as well as I can by preparing at the end of each year a long list of questions covering as far as possible those principles which I consider to be the most essential. I try to prepare them in such manner that the student can find the answers in no one work. This, in a general way, requires him to do more or less collateral reading in order to prepare answers, and it is on those questions that examination in the subject is based. The third and worst difficulty is that there is a lack of proper sentiment behind the study.

The fourth difficulty troubles me the most, and that is this teaching of applied pathology. In the University of Iowa, with which I am connected, the students have a thorough course in histology followed by laboratory and didactic work in general pathology before they come to me. I have put my work in two divisions: First, what I call the dental division or oral pathology, in which I teach only pathology of diseases of the teeth and surrounding tissues, the treatment of which does not belong to my course; and, second, that part of oral pathology properly belonging to the course in oral surgery, and of which I teach the treatment. I take up the consideration of the pathology in the following order: Etiology, pathology, symptoms, diagnosis, prognosis, and treatment of each disease, thus making the subject practical. The weakest point in all our teaching is due to the variance among those who should have opinions on the subject, more in accord.

Dr. L. G. Noel: I am indebted to those teachers who prepared letters giving their views in the matter of teaching pathology. I gathered from these letters that pathology is being taught in most of our dental schools, not from one chair alone, but from several, so that there is no escape from the subject. If a man is studious he can not help absorbing a large amount of pathologic knowledge while being instructed in the bacteriologic and histologic departments, and he is also being thoroughly taught pathology from the chair of surgery in nearly all dental schools as well as in the clinical course. It is impossible for the student to have too much pathologic teaching. I believe that all dental students should be graduates in medicine before the dental school. We should then have all the branches that the student had studied in medical school, applied to his specialty of dentistry.

DEMENTIA PRÆCOX.

A COMPOSITE HISTORY OF TWO HUNDRED CASES WITH BLOOD FINDINGS IN FIFTY CASES.

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Several articles devoted to the etiology of dementia præcox have appeared within the last year in English and American journals; still, additions and contributions to knowledge on this point are much to be desired. It is with the hope of adding, even though slightly, to the knowledge of this condition that we present the following clinical findings:

On examining the histories of 200 cases, in 65 per cent. we were able to find some mental or nervous defect in the family. The greater majority of these patients were apparently normal in body and mentally well endowed; in fact, a great many showed unusual ability to acquire school knowledge until the pubescent period was reached. At this time many complained of nervousness and loss of ambition; others were shy, seclusive and showed vasomotor irritability; again others developed exaggerated sexual feelings and practiced masturbation.

These symptoms usually passed almost unnoticed by the other members of the family for a year or two; then the majority of these patients became restless, complained of dull frontal headache, vivid disagreeable dreams, anorexia, digestive disturbances and inability to obtain restful sleep. If seen by a physician at this time they were usually found to have exaggerated deep and superficial reflexes, vasomotor disturbances (such as cold, clammy hands, cyanotic feet, dermatographia), anemia and loss of weight. To the prodromal symptoms just enumerated were now added the first real signs of mental aberration or the true onset of the psychosis. The first psychic field to show definite perversions was the emotional, and this was demonstrated in the change of feeling toward home, relatives and friends, and by periods of weeping, silly laughter and phobias. The next field to suffer included the various special senses. The patients heard unnatural sounds and voices, saw queer objects and visions, smelled disagreeable odors, their food tasted unnatural, sexual feelings were heightened or perverted, and frequently at night they experienced sensations as if suspended in space or lowered into some deep cavern. The patients as a rule at this stage of the psychosis tried to explain to themselves the cause of these unusual sensations, and as their judgment was defective, delusional ideas were the result. Delusions of persecution appeared first, and on them were engrafted those of position, grandeur, importance, religion, poisoning and also those of a sexual nature. At this point in the progress of the mental disease the attitude, manner and will became affected. Under the influence of hallucinations and delusions the patients usually became irritable, suspicious and egotistic. Lack of ambition and inability to perform simple tasks were quite noticeable at this time. Impulsive acts were often seen, some patients setting fire to their homes or destroying property while under the influence of these imperative ideas. A tendency to wander and travel was observed in a great many of these cases. As Kraepelin states, there is no doubt that among tramps a large percentage suffers from an arrested form of this disease.

The various psychic anomalies just enumerated were found to be more or less common to all cases of dementia præcox studied, but at this point in the progress of the mental disease certain psychic fields showed greater anomalies than others. For instance, in one group of cases the volitional field was found to be the one principally affected, the other symptoms being more or less in the background. In another group the emotional field was the one that suffered most, and in still another group the judgment showed the greatest weakness. For the above reasons the various authorities on psychiatry have divided dementia præcox into the catatonic, hebephrenic and paranoid forms. The three above-mentioned forms had, in the cases which we studied, a great many symptoms in common, but the degree to which certain psychic fields were invaded by the disease made these types stand out almost as distinct types of disease.

The most prominent symptoms displayed by the catatonic patients were those pertaining to anomalies of the volition or will, such as stupor with mutism, negativism, and more or less constant hypermuscular tension or excitement, during which the patients were destructive, untidy and noisy by shouting, and demonstrated stereotypy of speech and movements. While in the stuporous state the patients required a great deal of attention, were exceedingly difficult to care for, and usually needed to be fed artificially. The change from the stuporous to the excited state was frequently found to occur and usually took place spontaneously. One patient who had been stuporous for over three months suddenly became excited, got out of bed, forced his face through a large pane of glass and succeeded in dissecting the greater part of the flesh from the facial bones. After the wounds were dressed he again became stuporous and is in that condition at the present time, over two years since the above attack. The periods of excitement in these cases were usually of short duration, lasting as a rule from the few seconds consumed by one impulsive act to three or four days. We found a great many of these patients in a mixed state, that is, in a condition of stupor and mutism with rhythmic movements and some constraint. Delusions, illusions and hallucinations in these cases, though present as a rule, were not prominent. Some authorities claim that all of the volitional anomalies are prompted by delusional ideas, but we were unable to prove this except in a few cases. The prognosis was found to be far better in this particular form than in the other two forms of the disease. Twenty-two per cent. were able to return to their homes; of these 10 per cent. had recovered and 12 per cent. were slightly demented. A few of the slightly demented patients were readmitted to the institution later.

In the hebephrenic form the emotional field presented the principal characteristic anomalies. The ones most frequently found were general apathy, unprovoked silly laughter, lack of interest shown on meeting friends or relatives, frequent blushing, weeping, shyness, seclusiveness and preoccupied states. As in the catatonic form, delusions and hallucinations were usually present, but of minor importance when compared with the emotional phenomena. The mental decline in these cases was uniformly progressive, with a few remissions and a small percentage of recoveries. Most authorities claim that the hebephrenic form of dementia præcox goes to make up about 75 per cent. of the tramps and vagabonds.

The paranoid form, on the other hand, showed marked irregularities in the field of judgment. The most striking features were the delusional ideas and the formation of more or less fixed delusions. The delusions in reference to persecution were the first to appear, on which were engrafted those of grandeur, position, power, religion and occasionally those of an erotic nature. This type of the disease usually affected the patients later in life than the other two forms. On account of these delusional ideas being partly based on facts, patients of this type often came to the asylum for the first time as late as the thirty-fifth year of age, after having served several short terms in prison or having caused their relatives an enormous amount of trouble and anxiety. Authorities on criminology and psychiatry have found that a large percentage of eccentrics, anarchists and criminals is made up of sufferers from this form of dementia præcox. On account of their apparently more or less logical ideas the civil courts often find them guilty of some criminal offense or let them go free, exempt from the guardianship of an institution for the insane, until the psychosis is well advanced. No remissions or recoveries occurred in the few cases of this form included in this paper.

Tables 1 and 2 contain the blood findings in twenty-five cases of catatonic stupor and twenty-five cases of hebephrenia. Nine of the catatonic cases showed some slight mental impairment, but the entire hebephrenic group is composed of fairly recent cases. Wright's blood stain was used for the differential count and Erlanger's sphygmomanometer for the blood pressure.

TABLE 1.—CATATONIA.

Case No.	Hem. Per cent.	Erythrocytes.	Leucocytes.	Neutroph. Per cent.	Small M. Per cent.	Large M. Per cent.	Eosin. Per cent.	Trans. Per cent.	Basoph. Per cent.	B. Pressure. S. P.	D. P.
1	70	4,496,000	14,340	83.1	11.7	4.7	.5	0.	0.	165	110
2	70	2,712,000	13,326	31.3	21.1	10.3	5.8	1.2	.3	140	98
3	90	4,888,000	12,564	79.8	13.1	5.2	1.1	.6	.2	152	86
4	70	3,656,000	11,548	71.7	14.1	10.2	3.4	.4	.2	156	102
5	60	3,792,000	11,422	81.	7.2	10.8	0.	.8	.0	138	70
6	80	4,288,000	11,422	63.7	13.6	16.2	1.1	4.8	.6	154	92
7	70	4,216,000	11,042	78.4	12.5	8.2	.7	.2	.0	132	88
8	80	4,488,000	10,660	60.2	28.3	6.3	4.8	.2	.2	180	120
9	75	3,824,000	10,408	80.5	10.6	6.5	.7	1.	.7	132	88
10	65	5,048,000	10,280	66.9	15.	13.3	3.9	.4	.5	162	110
11	70	3,200,000	10.026	66.3	22.2	8.6	1.5	.9	.5	112	88
12	65	3,712,000	10,026	65.9	18.0	11.4	3.7	.5	.5	130	78
13	75	4,640,000	9,898	54.6	32.5	5.9	2.1	3.2	1.7	148	102
14	80	3,848,000	9,010	60.2	25.6	8.0	4.8	.9	.5	150	98
15	90	5,512,000	8,884	57.6	20.8	9.0	11.5	0.	1.1	140	80
16	65	4,128,000	8,248	62.2	19.9	12.2	2.9	2.3	.5	150	106
17	80	4,320,000	7,994	65.3	21.1	10.6	1.7	.3	1.	167	103
18	75	3,952,000	7,868	67.2	20.6	5.2	6.3	.0	.7	130	68
19	70	3,080,000	7,356	60.9	25.3	7.7	3.6	2.1	.4	132	80
20	70	3,832,000	7,356	49.4	34.2	8.3	2.9	3.3	1.9	110	80
21	90	5,368,000	7,230	50.5	29.2	15.5	2.5	1.2	1.1	128	78
22	70	3,384,000	6,996	73.4	13.3	10.3	1.2	1.3	.5	135	88
23	70	3,144,000	6,592	61.4	22.0	10.1	6.0	.3	.2	160	94
24	90	3,912,000	6,340	59.3	24.7	10.8	4.2	.8	.2	158	92
25	90	4,344,000	6,848	50.5	30.2	13.8	1.5	3.	1.	140	90

TABLE 2.—HEBEPHRENIA.

Case No.	Hem. Per cent.	Erythrocytes.	Leucocytes.	Neutroph. Per cent.	Small M. Per cent.	Large M. Per cent.	Eosin. Per cent.	Trans. Per cent.	Basoph. Per cent.	B. Pressure. S. P.	D. P.
26	80	4,680,000	17,894	60.2	24.	8.5	5.	1.4	.9	172	104
27	80	4,872,000	17,006	74.6	19.7	2.	3.13	.2	.2	150	76
28	80	4,712,000	15,230	69.9	21.2	4.7	3.6	.4	.2	165	100
29	75	3,504,000	13,706	64.5	24.4	6.5	3.6	.5	.5	144	92
30	90	4,448,000	13,072	70.5	11.6	13.7	3.5	.5	.2	134	78
31	80	4,792,000	11,548	63.7	20.	10.9	1.9	2.6	.9	128	88
32	75	3,712,000	11,168	52.3	30.9	9.5	3.5	3.8	.0	139	92
33	70	4,760,000	10,660	61.7	14.6	6.6	15.4	.7	1.	136	96
34	70	3,872,000	10,660	63.7	17.6	14.0	2.	2.2	.5	156	84
35	80	3,840,000	10,534	60.5	31.4	5.1	2.	.0	1.	130	78
36	70	3,760,000	10,026	65.5	21.6	4.2	6.	2.2	.5	128	78
37	90	5,072,000	9,898	64.5	22.9	9.4	1.	1.4	.8	160	92
38	70	4,336,000	9,138	68.6	18.9	9.9	2.2	.0	.4	148	82
39	55	3,904,000	9,010	61.1	21.4	6.5	8.9	2.1	.0	132	88
40	90	4,640,000	9,010	55.5	34.3	6.7	2.0	.7	.8	138	88
41	70	4,696,000	8,248	59.3	23.3	13.2	2.0	1.6	.6	128	82
42	80	5,840,000	8,122	61.5	26.7	7.1	2.4	1.7	.6	130	74
43	75	4,064,000	7,742	68.6	18.7	9.7	1.8	.7	.5	150	98
44	80	4,232,000	7,356	72.5	13.5	5.3	6.5	1.8	.4	110	62
45	65	3,600,000	7,356	52.9	36.4	5.0	3.5	1.9	.3	126	80
46	70	4,560,000	7,356	60.	30.	8.6	.9	.5	.0	130	74
47	70	4,416,000	6,996	61.4	26.3	10.3	.8	.8	.4	128	86
48	70	4,944,000	6,592	57.5	24.4	13.2	1.3	3.1	.5	128	78
49	55	3,624,000	5,692	62.5	18.2	9.6	6.2	3.0	.5	128	82
50	85	4,592,000	5,300	57.8	23.7	12.9	4.0	.8	.8	146	72

Patient 11 was operated on in January of this year and four-fifths of the right lobe of the thyroid gland was removed. For six months previous to the operation he had been mute, rigid, tube-fed and cared for in bed. Immediately following the operation he became mentally clear and talked freely. This hopeful condition lasted five days, when the patient's mind became clouded and convulsive movements were seen to involve the angles of the mouth and the extremities. On the seventh day the patient had four tetanic convulsions lasting from three to four minutes each, during which the trunk and extremities were in a state of extreme flexion. We were of the opinion that the parathyroid glands of the right side had been either removed or injured during the operation and the tetanic convulsions were the result. Five-grain tablets of thyroid extract were administered every four hours. After the first dose, the patient had no more convulsions, and when four tablets had been given, the drug was discontinued. During the following six weeks the patient was cared for in bed, being very destructive, delusional and negativistic. At the end of this time he began to improve and was allowed to get up and dress. Improvement has been gradual since, and at present the patient is mentally clear, takes considerable interest in his surroundings and occupies his time by reading and assisting the attendants with the ward work. Delusions and hallucinations are absent and the patient appears to be in a normal state, except that his movements as well as his thought processes are slow. Since the operation he has gained 23 pounds and his blood-findings are practically normal, aside from a mild leucocytosis and a low erythrocyte count.

After the tabulated blood examinations were made in cases 23 and 33, thyreoidectin was administered in five-grain doses every eighth hour for one week. A second blood count was made at the end of this period and the following changes noted: In case 23, the eosinophile percentage increased from 6 to 14.2 and the total leucocyte count from 6.592 to 8,884, while the neutrophile percentage decreased from 61.4 to 49.6. In case 33, the eosinophile percentage increased from 15.4 to 25.1 and the total leucocyte count from 10,660 to 14.340, while the neutrophile percentage decreased from 61.7 to 45.6.

Bazzicalupo's theory that the eosinophiles and neutrophiles that have undergone presenile changes is well illustrated in the table. Those cases that showed an unusually high eosinophile count also showed a correspondingly low neutrophile percentage.

The urine of forty-four out of the fifty cases tabulated showed an excess of indican.

While we do not feel justified in making deductions from the above findings, yet we consider the prevailing mild leucocytosis and the increase in the percentage of the eosinophile and large mononuclear cells with a low neutrophile count of considerable interest. The above facts just enumerated in reference to the blood and urine point strongly toward a physical basis for this disease, possibly an autointoxication of intestinal or glandular origin.

Pneumococcus Nephritis.—Ferrand diagnosed acute nephritis in a child of 6, previously healthy. The child died in three days, and the trouble proved to be a *pneumococcus* infection with multiple localizations, most severe in the kidneys. The lesions in the pleuræ and lungs were subordinate. Papillon had a similar case in his service, the signs of the acute nephritis dominating the clinical picture although there was pneumonia of the right lung, evidently the primary affection. The meninges were also involved. The case was still under observation when reported in the *Bulletin de la Société de Pédiatrie*, April, 1908

PSYCHOTHERAPY.*

M. A. BLISS, M.D.
ST. LOUIS.

The idea I desire to present is, that, as far as psychic influences are to be curative, they must be applied with that end solely in view and not with a reservation that admits greater development of a neurosis, so that the observer may make an interesting psychic analysis, may keenly dissect and examine in cool, critical fashion the abnormal working of the mind machinery as the physiologist examines the beating heart of the dog—good for science but bad for the dog. It goes without saying that we should apply our very best efforts to comprehend the innermost recesses of the patient's consciousness, but if in our warm pursuit of psychologic data we lose sight of our ultimate aim—the welfare of the patient—so much the better perhaps for scientific study, so much the worse for the patient. There is a very close comparison between this tendency in neurology and the overzealousness in surgery, where a desire to build up statistics, to do rare and unusual operations, to witness in perhaps a purely scientific spirit the progress of disease processes may contribute ultimately to the welfare of mankind at large, but works hardship on the individual sufferers. The analogy will apply probably in all fields of the healing art, but certainly not least in the application to psychic work.

In spite of the effort to reduce psychotherapy to a scientific basis must we not after all confess that it is an art and must be applied as an individual and personal quality? Can it anywhere be claimed that the art may be mastered equally by men of equal ability any more than all men of equal intelligence and industry might paint equally acceptable pictures or write literary productions? I think not. Moreover, the great bulk of the work in this field must be generously interspersed with kindliness and genuine human sympathy, with a spirit of friendship and comradeship, if it is to give the best results. The good old family doctor of the days now disappearing, who acted as general family counselor in moral as well as physical vicissitudes, has very successfully filled the rôle of psychotherapist. His very presence brought about favorable results that cold scientific analysis would utterly fail to attain.

Very recently one of my best friends in neurology, whose scientific work is well and most favorably known, was reporting a study of a hysteric situation. He was asked what suggestive work had been done toward removal of symptoms. He very naively replied, "None. In fact, it was the spirit of the game not to disturb the development of hysteric symptoms, but the hope existed that more profound manifestations might arise, that more might be learned of their nature." It may prove disconcerting in the end to find that a dislodgment of well-intrenched ideas is entirely beyond his suggestive powers.

It does not seem far-fetched to compare the development of psychic deviations to those of a purely physical nature. The relative ease of removal is certainly present in the beginning. So we may not privilege ourselves to study the growth of a neurosis coolly; we must apply our best efforts to its cure and store away whatever we may learn of scientific value, the acquisition of which does not interfere at all with the best interests of the sufferer.

Another phase of this subject and one which gives rise to wide differences of opinion is how far may we use placebos and other means of presumably pure suggestive nature like the static battery, as a quick and easy way of removing troublesome symptoms which may arise in the progress of any neurosis.

There is good reason for believing this rarely justifiable, and certainly the tendency is toward less careful and painstaking efforts to get the patient to realize the mental origin and method of management of his troubles. One might compare this to the use of the coal tar products for the relief of headache. A symptom is relieved, but the underlying cause is in no wise removed or affected except possibly for the worse. Most psychics are indefatigable in their search for medicinal remedies and come to offices ladened with thirty or forty prescriptions, about half of which call for one or another of the bromid salts. It may require an hour or more of valuable time and all our persuasive eloquence to put the truth plainly before them. We may not succeed even then, but it is none the less our duty to advise against all drugs, currents, etc., when the cause is a mental or moral one, than it is to write a prescription for quinin when the plasmodia appear in the blood.

I have had patients, with whom I had labored diligently, settle themselves rebelliously in a chair and declare they were not going to leave until they got a prescription for some medicine. They were tired trying my methods which, however successful at times, at other times failed completely to give relief. How easy to write for a cochineal mixture for such a patient to build up an elaborate expectancy and perhaps be later assured by him that it "worked like a charm." If there is a field in which psychotherapy actually cures anything, and it is the firm belief of many, if not most, neurologists that there is, there can be no excuse for weakly succumbing to this temptation to do at times what the quack does all the time, i. e., give some innocuous stuff to satisfy a desire of the patient and let Nature and hopeful expectancy do the rest.

Psychic analysis after the method of Freud and Jung certainly contributes extremely valuable knowledge to our branch of study, but it is questionable whether the material used in these experiments is not in some measure at least sacrificed to scientific enthusiasm.

After all, the largest use we find for psychotherapy, not the most urgent and indispensable but the most frequent, is in simple nervousness arising in patients who have never learned not to be governed by their emotions, whose philosophy has never been developed. When we run on to a genuine neurasthenia or psychasthenia, it takes two, three or four years to get it well, psychotherapy or none. A deep-seated hysteria we do not cure, though we fondly pride ourselves in our ability to "modify the personality." Our influence on the genuine psychoses, when we have crossed the shadowy line dividing them from simple nervousness, does not swell us with pride. It depends in a large measure on our ingenuity in devising employment, environment, and wholesome ways of living whether we succeed or not. The fascination of laboratory experiment and the easy way of the placebo may appeal to us according to our mood, but neither should be allowed to overweigh the one legitimate aim of our efforts—the cure, partial or complete, of the patient.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Clinical Notes

SUDDEN COLLAPSE FOLLOWING INJECTION OF DIPHTHERIA ANTITOXIN; RECOVERY.

FRANK W. THOMAS, M.D.
CLAREMONT, CAL.

Recent reports in The Journal of fatal results following the use of antitoxin, especially the cases reported by Drs. Wiley[1] and Boone,[2] prompt me to report a very unpleasant experience with serum a few months ago. Although the patient survived, I certainly do not care to have any more experience of like character.

Dec. 15, 1907, I was called to see a boy 15 years of age. He had always been healthy in every way, until the past few days, when he thought he had taken cold, and was now complaining of his throat. Examination showed a flushed face, rapid respiration, and quick pulse, 120 per minute. He breathed through the open mouth, indicating nasal obstruction. Inspection revealed a large mass of diphtheritic membrane which almost filled the pharyngeal and postnasal spaces. I at once sent for antitoxin, and on its arrival injected, by the usual technic, a dose of 4,000 units into the subscapular region.

Immediately there was a change in the boy's countenance. A look of intense anxiety came over him, and the lips, face and neck quickly became livid in appearance. He gasped for breath, and cried out that he was smothering, and that he had a pain in his heart. Froth poured from his mouth, and he clutched with his fingers at his throat and chest. There was a peculiar death-like stare in his eyes; the pupils became widely dilated, and very soon he went into convulsions, throwing himself from one side of the bed to the other. Finally his breath seemed to leave him, and he dropped back on the bed in a state of complete collapse and unconsciousness, while the radial pulse entirely disappeared from both wrists. Death seemed imminent.

Restorative measures were promptly instituted in the form of strychnin, atropin, and nitroglycerin, hypodermically, while heat was applied to the extremities and hot coffee injected into the bowel. Dr. Frank Garcelon of Pomona was called in consultation. Stimulation was pushed to the limit, without any apparent benefit, so far as restoration of consciousness or pulse was concerned. After lying in this condition for an hour and a half with no improvement, and as the throat was filling up rapidly with the false membrane which continually threatened strangulation, it was decided to try another dose of antitoxin, and 3,000 units were injected in the submammary region. One hour later, another dose of 2,000 units was administered. In each instance strychnin 1/30 gr. was given hypodermically coincident with the antitoxin.

No immediate effect was noticeable from either of these doses, one way or the other. Respiration continued weak and rapid, while the extremities were cold and blue. The case at this time seemed hopeless. One hour later an ounce of hot saturated camphorated oil was injected into the bowel, and retained. Two hours later respiration began to improve, and a faint radial pulse could be detected, the first perceptible in six hours' time, and the patient soon regained consciousness, but was very much prostrated.

As the boy could not now swallow, alcoholic stimulants were freely given, and peroxid of hydrogen spray, full strength, was used in the nose and throat at frequent intervals. At 9 a. m., the next day, 3,000 units of antitoxin were given, and the same sized dose repeated at 1:30 and 5:30 p. m., making in all 18,000 units administered in twenty-two hours.

Improvement in pulse and respiration became more noticeable, and the symptoms much more favorable, but the membrane did not begin to slough until the fourth day. After this it was freely cast off. On the eighth day severe muscular and articular pains came on, and the characteristic eruption appeared over the whole body, accompanied with intense itching, and the eyes became bloodshot.

Absolute rest was enjoined for several weeks after all troublesome symptoms had disappeared, and strychnin was continued until the patient had regained his strength. Convalescence was rather slow, but the patient finally made a complete recovery.

The question may be asked why succeeding doses of antitoxin were given this patient after the untoward effect of the first dose. The answer is that the boy's system was so thoroughly saturated with the toxemia of the disease that recovery seemed impossible without heroic measures such as antitoxin offers. The precaution was taken to give strychnin coincident with each of the succeeding doses of antitoxin for the purpose of sustaining the flagging heart action. Whatever theory may be applied to the case, the important thing is that the boy recovered. Without vigorous and continued stimulation death would certainly have followed.

The question of the untoward effects of serum injections have attracted the attention of the profession to a considerable extent within the past few months,[3] and now the federal government, through the Marine-Hospital Service, is making extensive investigation and study of the subject with reference to this point, and it is hoped that the department will be able to throw light on a mysterious condition concerning which we are in the dark at the present time.

The difficulty is that we have no criterion by which we may be able to foresee contraindications for the use of the serum that is so universally recognized as the most potent remedy we have with which to combat the poison of diphtheria. I have used antitoxin for years, and have given it twenty-five times since that unfortunate experience five months ago, and only with good results; but in the light of the experience reported during the past few months it behooves the profession to be on guard in the use of this remedy that we have heretofore given with feelings of absolute safety.

A NEW METHOD FOR THE QUANTITATIVE ESTIMATION OF ALBUMIN IN URINE.

PRELIMINARY REPORT.*

EDWARD H. GOODMAN, M.D.
Physician to the Dispensary of the Phipps Institute for the Study, Treatment and Prevention of Tuberculosis; Dispensary Physician to the Presbyterian Hospital; Assistant Instructor in Medicine, University of Pennsylvania, etc.

AND

SUZANNE STERN.
PHILADELPHIA.

Although there have been many new methods devised in past years which have simplified and enriched our laboratory equipment, there seems to have been no method suggested whereby the percentage of albumin in a given specimen of urine can be rapidly determined. The only means we possess is the Esbach albuminometer, which besides being inaccurate, possesses the added disadvantage of requiring twenty-four hours before a result can be obtained.

We have worked out a method which is extremely simple, accurate and which gives results in a few minutes. It is based on the precipitation of albumin by phos-

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[1] The Journal A. M. A., Jan 11, 1908, 137.

[2] The Journal A. M. A., Feb. 8, 1908, 453

[3] The Journal A. M. A., March 14, 1908, 875.

* A preliminary report from the private laboratory of Dr. John H. Musser.

phosphotungstic acid in the presence of a mineral acid. We dissolved 1 gm. of crystallized egg albumin in 100 c.c. of distilled water (Solution A). Of this we took 1 c.c. and diluted with 9 c.c. of distilled water (Solution B) so that in the 10 c.c. there was 0.01 gram of albumin; in 1 c.c., 0.001 gram, and in 0.1 c.c. 0.0001 gram. We put in a test tube 5 c.c. of the following solution:

Phosphotungstic acid	1.5 gm.
Hydrochloric acid (conc.)	5 c.c.
Alcohol 95 per cent., q. s. ad..............	100 c.c.

We found that if the above solution of egg albumin (Solution B) were added with a pipette graduated in 0.1 c.c. that it took 0.1 c.c. to cause a cloudy precipitate with the phosphotungstic acid; in other words, there were 0.0001 gram albumin in the 0.1 c.c. of the albumin solution.

To prove the delicacy of this we took 1 c.c. of Solution B and diluted it with 9 c.c. of distilled water so that in the 10 c.c. there was 0.001 gm. albumin, in 1 c.c., 0.0001 gm., and in 0.1 c.c. 0.00001 gm., and we found that it required exactly 1 c.c. to cause a precipitate, or 0.0001 gram albumin.

Having established the delicacy of the test we applied our method to urine. First the Heller's test was made and if much albumin was present, the urine was diluted 1 in 10, if not, undiluted urine was used. Of the phosphotungstic acid solution, 5 c.c. were put in a test tube and then with a 2 c.c. pipette graduated in tenths of a c.c. the filtered urine was added to this, shaking after the addition of each tenth, and adding urine until a whitish cloud appeared. The number of tenths of a c.c. was read off and expressed in terms of 100 c.c.

For example, if it took 1 c.c. of diluted (1 to 10) urine, there was .0001 gram albumin in .1 c.c. of undiluted urine, or in 100 c.c. there was 0.1 gram albumin, or 1 gram in 1000 c.c. On the other hand, if 0.7 c.c. diluted urine were used, then 0.07 c.c. undiluted urine equals 0.0001 gm. albumin; 7.0 c.c. equals 0.01 gm. albumin and 700 c.c. equals 1.0 gm. albumin. The following equation gives the percentage:

As 700 : 1.0 :: 100 : x or 0.142 per cent. or 1.42 per thousand.

Our findings have been controlled by the gravimetric method and the results are given below:

No. 1.—Titration method...0.06	per cent., or 0.6	pro mille
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No. 4.—Titration method...0.33	per cent., or 3.3	pro mille
Gravimetric method.0.34	per cent., or 3.4	pro mille
No. 5.—Titration method...0.12	per cent., or 1.2	pro mille
Gravimetric method.0.10	per cent., or 1.0	pro mille
No. 6.—Titration method...0.1	per cent., or 1.0	pro mille
Gravimetric method.0.17	per cent., or 1.7	pro mille

The method, as is seen, is exact, sensitive, simple and possesses the great advantage of giving the amount of albumin in a specimen of urine in a very few minutes. Further work is being carried on to determine the errors, if any, in this procedure, and a future paper will contain our final conclusions as to the value of our method.

2035 Chestnut Street.

Children's Hospital, Hobart, Tasmania.—The committee appointed to judge the designs for the proposed children's hospital have recommended that Mr. Rudolph Koch be awarded the first prize. The design provides for 24 beds, two wards of 10 beds, one of 3, and an isolation ward containing 1 bed.

CORN OIL IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

JOHN RITTER, M.D.
Instructor in Medicine, Rush Medical College.
CHICAGO.

The medical profession is fully conversant with the fact that, in the treatment of pulmonary tuberculosis, the oils and fats take foremost rank. All tissue waste, in excess of that in health, which always takes place during the active tuberculous process, must be met by an abundance of aliment to restore the metabolic equilibrium. Our chief reliance usually is placed on the ingestion of easily assimilable and readily digestible food. As food values the fats and oils are of the most importance. If the tuberculous patient refuses to take, or does not well tolerate, fats and oils which form part of the daily diet, such as butter, yolk of eggs, bacon, etc., then recourse must be had to some animal or vegetable fat given as a medicine.

Of animal oils, that obtained from the liver of the cod fish has for years been given the preference. Of late, the use of olive oil has come greatly into favor. Both cod liver oil and olive oil are expensive, and the price of these oils is, as a rule, beyond the reach of most tuberculous patients, as most patients suffering from pulmonary tuberculosis belong to the poorer classes. This has induced me to look about for an oil or fat which possesses all the good qualities and properties of either cod liver oil or olive oil, or of any other good vegetable oil, and which is inexpensive, palpatable, easily assimilated, well borne by the stomach and does not cause nauseous eructations. My attention was directed about a year ago to an oil obtained from corn or maize and I began to recommend and prescribe it to patients who applied at the Central Free Dispensary of Chicago and who were suffering from pulmonary tuberculosis. This was to be used in lieu of either cod liver oil or olive oil. From the fact of its inexpensiveness, it being about one-fourth the price of that of any other oil or fat usually prescribed in pulmonary disease, I wished to give corn oil a fair trial. I ascertained from reliable sources that the output of corn or maize oil is practically unlimited and it being only a by-product in the manufacture of starch minimizes its cost of production and makes the selling price proportionately low. The low price of maize oil, combined with all the good qualities of a palatable and wholesome oil, makes it the ideal oil for patients suffering from pulmonary tuberculosis.

I have given it not only to such as applied at the Central Free Dispensary for treatment, but also to such as came under my care at the Tuberculosis Institute and in all cases with equal gratifying result. I am convinced, from many close observations, that as a food or tissue builder it is fully equal to cod liver oil or olive oil. The ingestion of corn oil is well tolerated. It does not cause the nauseous eructations which usually follow the taking of cod liver oil, and the prolonged and increasing dosage is always well borne by the stomach.

Corn or maize oil (oleum mayidis, oleum zea mais) is obtained from ordinary corn. The amount of oil in corn varies from 3.5 to 6 per cent. The oil is found almost entirely in the germ which represents about 6.5 per cent. of the weight of the corn and about 50 per cent. of this germ is pure oil. It possesses all the properites of the fixed oils, being insoluble in alcohol or water, but very readily soluble in chloroform, ether or carbon bisulphid. Its color is light straw, it possesses

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We have worked out a method which is extremely simple, accurate and which gives results in a few minutes. It is based on the precipitation of albumin by phosphotungstic acid in the presence of a mineral acid. We dissolved 1 gm. of crystallized egg albumin in 100 c.c. of distilled water (Solution A). Of this we took 1 c.c. and diluted with 9 c.c. of distilled water (Solution B) so that in the 10 c.c. there was 0.01 gram of albumin; in 1 c.c., 0.001 gram, and in 0.1 c.c. 0.0001 gram. We put in a test tube 5 c.c. of the following solution:

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Phosphotungstic acid	1.5 gm.
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Alcohol 95 per cent., q. s. ad	100 c.c.

We found that if the above solution of egg albumin (Solution B) were added with a pipette graduated in 0.1 c.c. that it took 0.1 c.c. to cause a cloudy precipitate with the phosphotungstic acid; in other words, there were 0.0001 gram albumin in the 0.1 c.c. of the albumin solution.

To prove the delicacy of this we took 1 c.c. of Solution B and diluted it with 9 c.c. of distilled water so that in the 10 c.c. there was 0.001 gm. albumin, in 1 c.c., 0.0001 gm., and in 0.1 c.c. 0.00001 gm., and we found that it required exactly 1 c.c. to cause a precipitate, or 0.0001 gram albumin.

Having established the delicacy of the test we applied our method to urine. First the Heller's test was made and if much albumin was present, the urine was diluted 1 in 10, if not, undiluted urine was used. Of the phosphotungstic acid solution, 5 c.c. were put in a test tube and then with a 2 c.c. pipette graduated in tenths of a c.c. the filtered urine was added to this, shaking after the addition of each tenth, and adding urine until a whitish cloud appeared. The number of tenths of a c.c. was read off and expressed in terms of 100 c.c.

For example, if it took 1 c.c. of diluted (1 to 10) urine, there was .0001 gram albumin in .1 c.c. of undiluted urine, or in 100 c.c. there was 0.1 gram albumin, or 1 gram in 1000 c.c. On the other hand, if 0.7 c.c. diluted urine were used, then 0.07 c.c. undiluted urine equals 0.0001 gm. albumin; 7.0 c.c. equals 0.01 gm. albumin and 700 c.c. equals 1.0 gm. albumin. The following equation gives the percentage:

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No. 4.—	Titration method...	0.33	per cent., or 3.3	pro mille
	Gravimetric method.	0.34	per cent., or 3.4	pro mille
No. 5.—	Titration method...	0.12	per cent., or 1.2	pro mille
	Gravimetric method.	0.10	per cent., or 1.0	pro mille
No. 6.—	Titration method...	0.1	per cent., or 1.0	pro mille
	Gravimetric method.	0.17	per cent., or 1.7	pro mille

The method, as is seen, is exact, sensitive, simple and possesses the great advantage of giving the amount of albumin in a specimen of urine in a very few minutes. Further work is being carried on to determine the errors, if any, in this procedure, and a future paper will contain our final conclusions as to the value of our method.

2035 Chestnut Street.

Children's Hospital, Hobart, Tasmania.—The committee appointed to judge the designs for the proposed children's hospital have recommended that Mr. Rudolph Koch be awarded the first prize. The design provides for 24 beds, two wards of 10 beds, one of 3, and an isolation ward containing 1 bed.

CORN OIL IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

JOHN RITTER, M.D.
Instructor in Medicine, Rush Medical College.
CHICAGO.

The medical profession is fully conversant with the fact that, in the treatment of pulmonary tuberculosis, the oils and fats take foremost rank. All tissue waste, in excess of that in health, which always takes place during the active tuberculous process, must be met by an abundance of aliment to restore the metabolic equilibrium. Our chief reliance usually is placed on the ingestion of easily assimilable and readily digestible food. As food values the fats and oils are of the most importance. If the tuberculous patient refuses to take, or does not well tolerate, fats and oils which form part of the daily diet, such as butter, yolk of eggs, bacon, etc., then recourse must be had to some animal or vegetable fat given as a medicine.

Of animal oils, that obtained from the liver of the cod fish has for years been given the preference. Of late, the use of olive oil has come greatly into favor. Both cod liver oil and olive oil are expensive, and the price of these oils is, as a rule, beyond the reach of most tuberculous patients, as most patients suffering from pulmonary tuberculosis belong to the poorer classes. This has induced me to look about for an oil or fat which possesses all the good qualities and properties of either cod liver oil or olive oil, or of any other good vegetable oil, and which is inexpensive, palpatable, easily assimilated, well borne by the stomach and does not cause nauseous eructations. My attention was directed about a year ago to an oil obtained from corn or maize and I began to recommend and prescribe it to patients who applied at the Central Free Dispensary of Chicago and who were suffering from pulmonary tuberculosis. This was to be used in lieu of either cod liver oil or olive oil. From the fact of its inexpensiveness, it being about one-fourth the price of that of any other oil or fat usually prescribed in pulmonary disease, I wished to give corn oil a fair trial. I ascertained from reliable sources that the output of corn or maize oil is practically unlimited and it being only a by-product in the manufacture of starch minimizes its cost of production and makes the selling price proportionately low. The low price of maize oil, combined with all the good qualities of a palatable and wholesome oil, makes it the ideal oil for patients suffering from pulmonary tuberculosis.

I have given it not only to such as applied at the Central Free Dispensary for treatment, but also to such as came under my care at the Tuberculosis Institute and in all cases with equal gratifying result. I am convinced, from many close observations, that as a food or tissue builder it is fully equal to cod liver oil or olive oil. The ingestion of corn oil is well tolerated. It does not cause the nauseous eructations which usually follow the taking of cod liver oil, and the prolonged and increasing dosage is always well borne by the stomach.

Corn or maize oil (oleum mayidis, oleum zea mais) is obtained from ordinary corn. The amount of oil in corn varies from 3.5 to 6 per cent. The oil is found almost entirely in the germ which represents about 6.5 per cent. of the weight of the corn and about 50 per cent. of this germ is pure oil. It possesses all the properites of the fixed oils, being insoluble in alcohol or water, but very readily soluble in chloroform, ether or carbon bisulphid. Its color is light straw, it possesses a peculiar corn flavor, has very slight drying properties and a specific gravity of about 0.92, which is about the same as that of cod liver oil. Its viscosity is greater than that of olive oil. Its composition, like that of all vegetable fixed oils, is somewhat complex, mostly glycerids of the fatty acids, stearic, palmitic, oleic, archidic, etc. The chief source of maize oil is as a by-product in the manufacture of starch, dextrin and glucose. A small quantity is obtained when corn undergoes the process of fermentation in the manufacture of alcohol, and a like small quantity is obtained from the hominy mills.

The usual process of manufacture is very simple. In making starch the corn grain is steeped until the kernel is softened and the germ has assumed a tough, elastic condition. The warm steeping water is run off, the grain washed and then shredded apart and coarsely ground. This usually suffices to loosen the germ from the rest of the grain. The magma is now placed into tanks of rinsing water in which the starch granules settle rapidly to the bottom, while the light germs float off from the top. These germs are then washed, dried, ground and the oil removed by hydraulic pressure. The oil as obtained is very easily refined and clarified, simply by placing the expressed oil in large airtight containers for a definite time when the albuminous matter subsides or the subsidence of the albuminous matter may be hastened by the addition to the oil of an inert, insoluble earth, such as kaolin, decanting the clear oil and filtering.

Every physician, with but limited experience with pulmonary patients, knows fully well that pulmonary tuberculosis is most prevalent among the indigent and needy poor and that the purchasing price of oils or fats, be it in the form of olive oil, cod liver oil, butter, etc., is not always within reach of these unfortunates; hence an oil or fat which possesses all the food values of the best oils or fats that are used in the building up of the wasting tissues, and at a cost to the purchaser of only one-fourth in money value, is undoubtedly an item which demands the careful consideration of every painstaking practitioner of medicine.

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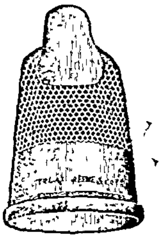

Therapeutics

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Internally its action resembles that of colocynth, but it is far more powerful. In small doses it acts as a stimulant to the gastrointestinal mucosa, increasing its secretion. It is also a stimulant to the pancreas and liver, perhaps reflexly. In larger doses it is irritant to the intestine, producing profuse watery stools, usually accompanied with griping and nausea, and occasionally with vomiting. Elaterium is one of the most powerful hydragogue cathartics, and large doses can produce dangerous prostration and even death. Elaterin acts when used hypodermatically, but is much more efficient when given by the mouth, as the bile seems to render it more active.

Elaterium is indicated when it is advisable to produce profuse serous discharges from the intestines, and has been used for many years in dropsies. It is especially valuable when there is effusion in the serous membrane cavities (pericardial, pleural and peritoneal cavities), and it also is often used successfully when there is general anasarca. Frequently diuretics will not act efficiently until free watery catharsis has relieved the pressure from exudates. Whenever this drug or any other is used to relieve dropsies it must be remembered that the intake of water in any form must be diminished. Elaterium has long been used in uremic conditions, whether there is dropsy or not, and it has often seemed that it relieved cerebral symptoms better than other hydragogue cathartics. It has been thought that it caused the elimination by the intestines of more of the products of metabolism, that the kidneys could not excrete, than any other cathartic. It has also been used to relieve cerebral and pulmonary congestions, acting as a revulsant. However, in cerebral congestion a quicker acting drug, as croton oil, is often better, and in dangerous acute pulmonary congestion any quickly acting hydragogue cathartic, as magnesium sulphate, will act as well, or better still, venesection as indicated.

The contraindications to the use of the elaterium are, gastric or intestinal inflammation, extreme exhaustion, any weak heart condition, and pregnancy. Unlike the action of croton oil, and unlike the action of the saline cathartics, after the movements of the bowels begin they tend to keep up, causing a large drain of water from the system which becomes very depressing, and sometimes can be stopped only by the hypodermatic use of morphin with atropin. This undesired action of elaterium prevents its frequent use.

The dose of elaterin is from 0.003 to 0.006 grams (from 1/20 to 1/10 grain), and it may be repeated once or twice at five-hour intervals, depending on the results.

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Sodii Nitris, sodium nitrite, occurs in white opaque masses or as crystals. It is odorless and has a mild saline taste. It quickly changes to the nitrate on exposure to the air and is then unfit for use. It is very soluble in water, and the dose is 0.065 gram (1 grain).

Nitroglycerin is also offered in tablet triturate form, the dose ranging from 1/400 to 1/50 of a grain.

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When a more prolonged vasodilator effect is desired, nitroglycerin is indicated, either administered hypodermatically in soluble tablet where the dose should rarely be more than 1/100 of a grain, or a tablet is allowed to dissolve on the tongue, or a drop or two of the spirit of nitroglycerin, or when slower action is desired, swallowed after a meal. Unless the condition is one of emergency and the quick stimulating effect of nitroglycerin is desired which will immediately be followed by dilatation of the peripheral blood vessels, nitroglycerin should be swallowed after a full meal. In this way the sudden, intense action with throbbing and fulness in the head is obviated. Nitroglycerin may be administered, when considerable dilator action is desired, every three or four hours, but three times a day, or perhaps better, four times a day (i. e., after each meal and at bedtime), is generally the frequency that is sufficient to continuously keep a high blood pressure slightly reduced. In hypertension in chronic endarteritis or arteriosclerosis it may frequently be noted that a small dose acts more satisfactorily than a larger one, i. e., many times 1/400 of a grain of nitroglycerin will act better than a larger dose. It must be remembered that such patients do not do well with low tension. Nitroglycerin is also very efficient and very successful in overcoming cardiac distress and dyspnea when there is aortic narrowing, when the left ventricle is not weakened.

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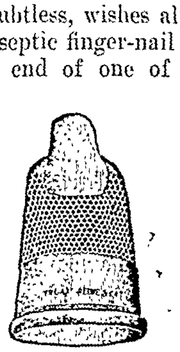

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[For other information see second page following reading matter.]

SATURDAY, JULY 4, 1908.

FOURTH OF JULY ACCIDENTS.

After five years of active campaigning we commence our sixth annual compilation of statistics of Fourth of July accidents and fatalities. There is something gruesome and at the same time enraging to feel that to-day possibly hundreds of persons will be slaughtered and some 4,000 or 5,000 wounded and maimed who yesterday were care-free children preparing to make a Chinese holiday.

The supreme contempt of the American public for human life, as exemplified in our appalling daily slaughter by railroads, machinery, and preventable diseases, is nowhere so vividly shown as in this annual massacre. For the most part the responsibility can be laid at the doors of our inefficient municipal officials who make no earnest effort to check dangerous forms of celebration, although they are almost universally empowered by statute to do so. They will, with few exceptions, make this effort only when it becomes apparent that the public really demands it, and so the matter finally drifts back on public sentiment without waiting for which few public officers care to move. In a few cities there have been exceptional individuals in power who have demonstrated that it is not a difficult matter to check the dangers of the Fourth, and that any honest effort in this direction will receive public support and approbation.

Nevertheless we can look forward to having the responsibility of the care of some 5,000 wounded young "patriots" laid on the medical profession this year as every year, and we hope to see the steady and remarkable gain in the reduction of tetanus mortality continued. When THE JOURNAL first began its statistical studies five years ago the Fourth of July tetanus cases numbered 415, but after the publicity given these figures and the widespread demand for thorough surgical treatment and antitoxin prophylaxis in all blank cartridge and cannon cracker wounds, the morbidity dropped remarkably. From the 415 cases of 1903 the number was reduced to 105 in 1904, 104 in 1905, 89 in 1906, and 73 in 1907. As this improvement took place while the total number of accidents remained practically stationary, and with the deaths from causes other than tetanus rising steadily from 60 in 1903 to 102 in 1907, it is evident that the annual saving of 300 or more lives from tetanus has been accomplished in spite of public carelessness and official incompetence, through the activity of the medical profession. We have observed with no little satisfaction that nearly all the tetanus cases have developed in persons who did not receive medical attention in time to check the disease—a statement that we could not make five years ago.

Every annual compilation that we make of this subject adds to the now conclusive evidence that tetanus antitoxin is an almost infallible prophylactic, and that it should be used at the earliest possible moment for every case of penetrating wound caused by Fourth of July injury. Thorough surgical cleansing under anesthesia is, of course, imperatively demanded, but this alone, no matter how carefully carried out, can not give the absolute security that is assured when good surgery is supplemented by antitoxin prophylaxis. Since the Hygienic Laboratory has provided a standard for testing tetanus antitoxin, and has defined a unit for measuring the antitoxin strength, the value of the antitoxins on the market has now become something tangible, and their usefulness have been greatly increased. The unit is defined as ten times the least quantity of antitetanic serum necessary to save the life of a 350-gram guinea-pig for ninety-six hours against the official test dose of a standard test toxin furnished by the Hygienic Laboratory of the Public Health and Marine-Hospital Service. The Society of American Bacteriologists, in December, 1906, adopted a resolution in regard to the standardization of tetanus antitoxin and decided that the minimal immunizing dose for a case of possible tetanus infection should be 1,500 units.

We regret that it is not possible to hold out more hope of success in the curative treatment of well-developed tetanus, but in this respect the situation has changed but little in several years, and the mortality of tetanus resulting from these Fourth of July wounds is still probably over 90 per cent., although we can not secure reliable figures on that point. There are occasional cures reported that stimulate interest, but on investigation these are for the most part in cases with less virulent infections as shown by a long incubation period or mild symptoms. Tetanus, except in the largest hospitals, is encountered so rarely that most of the newer methods of treatment must be considered as still in the experimental stage. On the whole, the most useful method of treatment applicable by the general practitioner seems to be the subdural injection of repeated doses of antitoxin preceded by withdrawal of as much as possible of the toxic cerebrospinal fluid, and accompanied by injection of large doses of antitoxin subcutaneously. Rational symptomatic treatment with sedatives, narcotics, and, when necessary, with anesthetics, should also be carefully followed out. Controlling the spasms by intraspinal injections of eucain or cocain as proposed by Murphy, or magnesium sulphate as advocated by Meltzer, may also be found of value, but we need many more clinical reports on these methods. As tetanus is so rare a disease that the experience of any one person is of necessity limited, it is desirable that the experience of each be recorded and made available for all. We will welcome any case reports or other information concerning cases of Fourth of July tetanus that will aid us in compiling the record of this year's celebration.

AMERICAN MEDICAL ADMINISTRATION IN PANAMA THROUGH BRITISH EYES.

It is gratifying to read such a generous appreciation of American state medicine as is contained in an article on "America's Triumph in Panama," by John George Leigh.[1] Mr. Leigh, it will be remembered, contributed articles to the *Lancet*[2] explanatory of the climatic and hygienic problems facing the United States administration in the inaugural stages of work on the Isthmian Canal. He insisted that the success of the undertaking would depend not on the skill of modern engineers, of which there was no doubt, but on the question whether the health environment could be so ameliorated as to abolish the disastrous conditions that had caused the failure of previous attempts. He urged that the last word in the fateful decision then pending, between high-level and low-level plans, respectively, should be spoken "not by the aspiring engineer, but by the profession which will be held mainly responsible should the prophecies of ill be justified by events." The temporary success of the adherents of the sea-level scheme and its speedy abandonment justified Mr. Leigh's foresight.

In the present article he records the history of the canal from that date. In view of the clear-spoken responsibility which he had previously laid on the work of the medical department, and indirectly on the attitude that the government should adopt toward that department, his comment on the results as they actually befell is well worthy of reproduction. After recounting the reconstruction of the commission, consequent on the "unendurable and even dangerous" situation into which the project had fallen, by a lack of heed to the warning as to the paramount importance of the hygienic administration, Mr. Leigh continues: "All these appointments have been fraught with happy consequences, and none more so than that of Colonel Gorgas, whose promotion to the rank of commissioner must be regarded, not only as a well-merited personal compliment but also as a national recognition through the chief executive of the immense services which are being rendered to the United States in the prosecution of its great undertaking by members of the medical profession." It is to Colonel Gorgas' efforts and to his loyal support by the administration that Mr. Leigh attributes the fulfilment of his prophecy in 1905, that the canal would, "during construction, prove the most striking object lesson ever offered of the benefits to be derived from a well-organized sanitary organization associated with a great public work."

The article concludes: "In the lap of the gods rests the future of the Panama Canal enterprise. Whether it prove the great engineering triumph and commercial highway to which many of us look forward with confidence time alone will show, but of one credit history can never rob the United States. Among much good and evil it must record that it was under American administration that the knowledge and resources of modern science were applied to the hygienic redemption of the once noisome isthmus. Such fruits of labor in this direction have already been gathered that they promise to rival as a worthy monument of American achievement even the canal itself." We can thankfully accept this ungrudging praise, for we know it to be as just as it is generous.

A SPLENDID GIFT TO ADVANCE PSYCHIATRY.

Probably the phase of medical advance, in this age of progress, of which the world at large is least cognizant is that in psychiatry; and it is safe to affirm that in no country have greater strides in this branch of medicine been made than in the United States. They have, however, been unheralded by public clamor; rather, on the contrary, where the results of recent scientific research in that direction have been forced on the attention of the public, as by the attitude of the medical profession to the relations between crime and insanity, they have been greeted with indifference. But, for all that, the advance is real, and must sooner or later be acknowledged; indeed, the awakening is already at hand.

Significant, as well as munificent, is the recent splendid gift to Johns Hopkins University of Mr. Henry Phipps—to whose philanthropic interest in behalf of another great problem, tuberculosis, the Phipps Institute in Philadelphia, as well as the Phipps Dispensary for Tuberculous Patients at Johns Hopkins Hospital, bears practical and eloquent testimony. He now gives $750,000 to build a psychiatric addition to Johns Hopkins Hospital and to endow it for ten years with clinical, research and educational facilities, as was briefly noted in The Journal last week. The director of the psychiatric clinic and professor of psychiatry appointed by the trustees, on the recommendation of the medical faculty, to fill the new office established by this benefaction, is Dr. Adolph Meyer, of New York. It would certainly have been difficult to make a better selection. To a general culture broad beyond the average, Dr. Meyer adds a notable experience as a scientist and psychiatrist. After a distinguished academic career at Zürich, where he was born, including study in London, Edinburgh, Paris, Vienna and Berlin, he came to America in 1892 and at once rose to prominence, becoming in succession a teacher of neurology in the University of Chicago and pathologist to the Illinois Eastern Hospital; then director of the clinic and laboratory at the Worcester (Mass.) Insane Hospital and a teacher of psychiatry at Clark University, and, finally, director of the pathologic institute of the New York State Hospital, Ward's Island, and professor of psychiatry at Cornell University. His contributions to the literature of nervous and mental diseases are many and notable.

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[1] Lancet, June 6, 1908, p. 1646.

[2] June 3, 10, and 24, 1905.

In accordance with a sound principle now becoming more and more general, Dr. Meyer and the architect of the proposed buildings will shortly make a tour of the principal psychiatric clinics abroad, with the view of starting the new institution from the most advanced point, in the matter both of building and of administration.

BACTERIAL THERAPY AND DIAGNOSIS OF GONOCOCCUS ARTHRITIS.

The strenuous application of opsonic therapy to clinical uses by persons of all degrees of qualification has led to a confused tangle of contradictory results and debatable conclusions, from which the solid facts are hard to isolate. Out of the confusion, however, certain facts have emerged definitely and prominently; one of these is the readiness with which hypersensitization to bacterial substance may be obtained, and the relation of this hypersensitization to the well-known tuberculin and mallein reactions. Another is the unquestionably favorable results that are sometimes obtained in certain tuberculous lesions, and in a few other forms of infection, from careful and judicious immunization with dead bacteria.

Acute infectious processes, as a rule, are much less likely to be favorably influenced by this method of treatment than chronic infections, even when produced by the same organism, and gonococcus infections constitute no exception to this rule. Bacterial therapy has given for the most part uncertain or no results in the treatment of acute urethritis and vulvovaginitis, although there are some who have been encouraged by their experience in this field. Gonococcus arthritis and periostitis, however, on account of their chronic course offer particularly favorable conditions for bacterial therapy, and here the results seem to be promising. Cole and Meakins observed favorable results in fifteen cases of gonococcus arthritis in which inoculations were given and systematic observations made on the opsonic index. Recently Irons[1] has reported forty cases of gonococcus infection, including thirty-one cases of arthritis, in which bacterial inoculation was tried, and the results were favorable, especially in the chronic forms of gonococcus arthritis. It was incidentally observed that massage of the prostate, when this organ is infected, has much the same effect as an injection of dead gonococci, being followed by a marked rise in the opsonic index of the blood and a favorable influence on any coexisting gonococcus infection. Presumably the massage causes an autoinoculation with gonococci, which results in an augmentation of the powers of resistance.

Besides the therapeutic results Irons has made another observation that seems to promise much of value in the diagnosis of gonococcus lesions. He noted that in patients suffering with gonococcus arthritis or other localized infections with the same organism, injection of dead gonococci is followed by clinical phenomena that are similar in many respects to those following injection of tuberculin in tuberculous patients, while no effects are produced by injecting dead gonococci into normal individuals. A slight rise of temperature and some malaise accompany an increase in the local symptoms in the joints, and sometimes there is a local reaction at the point of injection; with these manifestations there is a temporary lowering of the opsonic index, which is followed by a rise in the index and an improvement in the course of the disease. As gonococcus arthritis is often difficult of diagnosis, and establishment of the correct etiologic factor is of especial importance now that specific bacterial therapy is being found of value, this "gonococcus reaction" may be of great assistance in the diagnosis of arthritic conditions. Several cases are cited by Irons in which this reaction was found to point out the presence or absence of gonococcus infection. His conclusions, which are quoted below, are tempered with scientific conservatism.

"Clinically in a number of cases the injections of dead gonococci have seemed to be of distinct value. Many more series of cases must be studied before a definite opinion can be expressed, but the results obtained thus far seem to indicate that in certain cases at least of gonococcus arthritis recovery can be hastened by the injection of dead gonococci. No harm has appeared to follow the injections, and it is possible that the use of larger doses will be found desirable in some cases. With further work the limitations as well as the advantages of the method will appear, and it should be recognized that while it is attractive theoretically as a specific therapeutic measure, too much must not be expected of it in the way of marvelous cures. It should be used rather in conjunction with other general measures such as rest, aspiration of joints distended with fluid, massage of the prostate, and other surgical and general hygienic treatment. The reliability of the clinical gonococcus reaction as a diagnostic procedure will also be determined only after many tests. It has many points in common with the tuberculin reaction, and similarly, too, there may well be cases of gonococcus infection found which do not respond. It appears, however, to be well worth a trial. Should the reaction prove to be reliable, a valuable and much-needed aid will be at hand for the diagnosis of obscure joint, synovial and periosteal diseases."

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[1] Jour. Infect. Diseases, 1908, v, 279.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The International Congress on Tuberculosis which convenes in Washington, September 21 to October 12 and which has frequently been referred to in these columns, will, for many reasons, be a most notable meeting. The remark has been made that it will be somewhat surprising if such a congress can hold the attention of the public in the midst of what will doubtless be a spirited political campaign. It is to be hoped, however, that it will do this, for the meeting will be one, not merely of local, but of international importance. It will be participated in by experts in tuberculosis from all over the world, and America will be given an opportunity to learn from other nations the details of the organized fight against tuberculosis. In this respect, although we have made a creditable beginning, it must be admitted that, on the whole, we are somewhat behind other nations. It is expected that the work of the noted foreign visitors will not be limited to the congress, but that they will remain some time after the congress has closed and give the benefit of their experience in a series of addresses in the various cities of the country. The national government will take part and many of the states have already appointed representative committees. Those which have not done so should lose no time in perfecting arrangements for a complete exhibit of the measures which they are taking against the spread of the disease.

The fear is sometimes expressed that we are pushing the antituberculosis propaganda too far and inducing a veritable phthisiophobia. This apprehension has its justification, perhaps, in certain extreme measures which have been proposed, but when it is realized that the successful prevention of tuberculosis depends, not on mere quarantine measures, but on a genuine hygienic and social reform, it must be admitted that the movement is in little danger of going too far. One of the great benefits of the congress will be the incentive and the opportunity afforded to unify and coordinate the efforts of the different sections of the country so that all may work together in harmony and with the greatest benefit.

The congress should awaken in the general public a widespread interest and should emphasize the fact that the movement against tuberculosis is one which in its economic and humanitarian aspects belongs to the general public and not to any class. To this end it is to be hoped that the exhibition and popular lectures will attract wide attention.

Aside from the services of the congress in the interests of preventive medicine, we may expect important contributions to the pathology and treatment of the disease. The preliminary work of preparation has been done largely under the auspices of the National Association for the Study and Prevention of Tuberculosis and the thanks of the profession are due this organization for its efficient efforts. The best expression of this appreciation will be a determined effort on the part of every one so far as possible to make the congress a success.

CLEAN ADVERTISING—A SIGN OF THE TIMES.

We are glad to add to our already published instances another example of "sweet reasonableness" on the part of the press in regard to the question of cleaning up the Augean stables of advertising. Considering that the task is a costly one for those publications engaged in it, it is meet that it should receive public recognition and thanks when it is conscientiously performed. The instance to which we refer this week was brought to our notice by Drs. Boyer and Boyer of Indianapolis. One of this firm, a subscriber to a monthly periodical called *Reason*, published at Rochester, N. Y., called the attention of the publishers to the fraudulent nature of Actina, an advertisement of which that journal carried. The publishers replied courteously, thanking Dr. Boyer for directing their attention to it. They stated, however, that they had investigated the matter, so far as they were competent to do so, before accepting the advertisement, and added: "You must admit that such statements as you have made call for substantiation and proof that will convince any fair-minded person. It is clearly 'up to you.' Make good your assertion and we will gladly cease advertising this firm and tender you our most sincere thanks. Failing this, we shall send your letter with a note of explanation to the Actina Company, as you are doubtless aware it is actionable for libel. This is quite fair, is it not?" Quite fair, it would seem—fair alike to the legitimate demands of subscribers and to the just interests of advertisers, showing bias in neither direction, but a level-headed sense of justice and a desire for the right. The reply of Dr. Boyer was simple but effective. He forwarded a marked copy of the "Great American Fraud" reprint. Thereupon the Austin Publishing Company wrote to thank him, and stated that they "have decided to suspend the advertisements of the Actina Company, classing them as 'undesirable.'" They further ask permission to keep the booklet, "for use as a check for future advertisements of this nature." This is a noteworthy demonstration of three important points: 1, The awakening of the press conscience to the fact that it has a duty in the matter of fraudulent advertising; 2, the effectiveness of Mr. Adams' Great American Fraud series; and 3, the service that can be rendered to the cause by individual physicians who have the strength of their convictions. *O, si sic omnes!*

A CORONER ON OPERATIONS.

In our London correspondence[1] this week we are told that a British coroner is attracting attention among medical men by his attitude with regard to deaths due, directly or indirectly, to operations. The coroner's argument is that, with the great increase of surgical operations, some deaths are doubtless due to the operation itself and, therefore, come within the coroner's jurisdiction. In the case referred to by our London correspondent, such a well known man as Sir Victor Horsley was called on to testify in a case of death resulting from the removal of a brain tumor. The coroner directed the jury that a verdict of accidental death would be proper if the members of the jury were "satisfied that the operation was justifiable and that all due care had been taken." Even were such supervision as that suggested by this zealous officer either necessary or desirable, the idea of a jury of twelve men, possessing neither medical nor surgical knowledge, passing on the question as to whether an operation performed by one of the foremost surgeons of the day was "justifiable," is, in its last analysis, laughable. Equally ridiculous is the attempt on the part of the same men to determine whether or not "due care had been taken" at the operation. The whole system savors too much of that relic of barbarism that obtains in many of our state courts in which a jury of laymen pass on the question of an individual's sanity. It is conceivable that, in those cases in which the surgeon has been, justly or unjustly, the subject of censure, a coroner's jury composed of an equal number of intelligent laymen and of physicians might render a valuable service both to the public and to the medical profession. The idea, however, that a jury composed only of laymen is competent to pass judgment on cases involving so many abstruse and nice points of a purely technical nature is preposterous.

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[1] Page 50.

Medical News

CALIFORNIA.

Fees Allowed.—In the circuit court recently, Dr. Peter C. Remondino, San Diego, was allowed $2,000 fees for professional services to the late George W. Crane. Dr. Remondino's claim originally made was for $3,900.

Unlicensed Practitioner Sentenced.—Thomas H. Storey, Los Angeles, is said to have been found guilty, May 15, of practicing medicine without a license and to have been sentenced to imprisonment for sixty days and to pay a fine of $500.

Medical Meetings.—The Alumni Association of the College of Physicians and Surgeons, San Francisco, has elected the following officers: President, Dr. Francis B. Williams; vice-presidents, Drs. Thomas Fletcher and Frederick C. Keck; secretary, Dr. Charles M. Troppmann, and treasurer, Dr. H. A. Mager. The Orange County Medical Association, at its annual meeting and banquet, held in Santa Ana, installed the following officers: President, Dr. John Wehrly, Santa Ana, vice-president, Dr. J. L. Beebe, Anaheim; secretary, Dr. Jessie M. Burlew, Santa Ana; treasurer, Dr. John L. Dryer, Santa Ana, and librarian, Dr. Howard S. Gordon, Santa Ana.

CONNECTICUT.

Typhoid Epidemic.—Typhoid fever is reported to be epidemic in Terryville. The health officer in making investigation as to the source of the epidemic, found that all the typhoid patients had procured their milk supply from one individual, and that a portion of this supply had been procured from a farm which has a typhoid history.

Society Meetings.—At the annual meeting of Litchfield County Medical Association, held in Winsted, the following officers were elected: President, Dr. Irving L. Hamant, Norfolk; vice-president, Dr. Salmon G. Howd, Winsted; clerk, Dr. Frank H. Lee, Canaan; and councilor, Dr. Edward H. Welch, Winsted.——At the one hundred and sixteenth annual meeting of Hartford County Medical Society, held in Hartford, the following officers were elected: President, Dr. Charles M. Wooster, Tariffville; vice-president, Dr. Charles D. Alton, Hartford; secretary-treasurer, Dr. Frederick B. Willard, Hartford; councilor, Dr. Oliver C. Smith, Hartford; censors, Drs. Thomas F. Kane, Hartford; Walter, G. Murphy, East Hartford; and Edward G. Fox, Wethersfield.——At the annual meeting of Middlesex County Medical Association, held in Middletown, the following officers were elected: President, Dr. James Murphy, Middletown; vice-president, Dr. Michael D. Murphy, Middletown; clerk, Dr. Arthur B. Coleburn, Middletown; censors, Drs. Miner C. Hazen, Haddon, and John E. Bailey, Middletown; secretary-treasurer, Dr. James T. Mitchell, Middletown; councilor, Dr. Frank K. Hallock, Cromwell; and delegates to the state society, Drs. Arthur B. Coleburn and Jeremiah F. Calef, both of Middletown.——The Hartford Celtic Medical Research Society was organized June 11, and the following officers were elected: President, Dr. Daniel F. Sullivan; vice-presidents, Drs. Edward J. Turbert and Thomas F. Welch; treasurer, Dr. P. R. McPartland; secretary, Dr. James F. Rooney.——The Willimantic City Medical Society was organized June 19 by the physicians of the city, and the following officers were elected: President, Dr. Theodore R. Parker; vice-president, Dr. T. Morton Hills, and secretary-treasurer, Dr. Clarence E. Simonds. A committee was appointed to draft a constitution and by-laws, and the organization will be completed July 6.

DISTRICT OF COLUMBIA.

Recommended to Mercy.—Dr. Robert C. Anderson, Washington, indicted for house-breaking, is said to have been convicted June 11. The jury recommended him for mercy and requested that his mental condition be made the subject of official inquiry.

Unlawful Practitioner Sentenced.—Edward Leon Thompson, known as "Dr. Leon," who was recently convicted for performing an illegal operation on a colored woman, is said to have been sentenced, June 5, to imprisonment for five years in the penitentiary.

Dismissed from Service and Imprisoned.—Assistant Surgeon David A. Spear, U. S. Navy, charged with forging endorsements on pay checks, and who is said to have admitted having stolen from officers, and whose defence was mental incompetency from drink, is said to have been found guilty and sentenced to dismissal from the service and to imprisonment for one year.

ILLINOIS.

Large Class Examined.—At the Illinois State Board of Health examination, held in Chicago, June 24 and 25, there were 365 applicants, making the largest class on record to take the examination.

Fined for Prescribing Beer.—Dr. Roy C. Richards, Hopedale, accused of violating the "Dram Shop Act" by prescribing beer for a patient, is said to have pleaded guilty of technical violation of the law, and to have been fined $20 and costs.

Bids for Antitoxin.—The State Board of Health, through its secretary, Dr. James A. Egan, Springfield, is advertising for sealed proposals for diphtheria antitoxin for free distribution by the board. The legislature has appropriated $30,000 for this purpose.

Smallpox.—Elgin reports 18 cases of smallpox and 8 houses under quarantine.——Joliet still has 9 cases of smallpox; seven of the patients are in the Isolation Hospital and all are on the road to recovery.——Four cases of smallpox are reported at the Rock Island County Infirmary.

Tribune Hospital Opened.—The fourth consecutive season of the Tribune Summer Charities at Algonquin was inaugurated the first week in June. Building operations of the second building of the group have already been commenced. This building is to be a central pavilion, containing a dining hall, diet kitchen, laundry, general offices, etc.

Chicago.

Fire in Medical College.—A fire on June 21, originating in the clinical laboratory of the College of Physicians and Surgeons, caused considerable alarm to patients in the hospitals near by, although no one was injured. The total loss was about $3,000.

Vaccinators Invade Black Belt.—On June 25 a hundred physicians, under the direction of Drs. Heman Spaulding and I. Donaldson Rawlings of the department of health, made a house-to-house inspection of the territory lying between State and La Salle and Sixteenth and Forty-fourth streets. Every house was visited and the tenants were compelled to be vaccinated unless they could show satisfactory scars.

Communicable Diseases.—A total of 393 cases of communicable diseases was reported to the department during the week, 72 fewer than for the preceding week. To this total, measles contributed 177; diphtheria, 71; scarlet fever, 44;

whooping cough, 36; tuberculosis, 26; chickenpox, 22; typhoid fever, 12; smallpox, 2, and miscellaneous diseases of minor importance, 3. Of the two cases of smallpox, both patients were unvaccinated colored men, and in both cases the disease was apparently contracted outside of Chicago.

Personal.—Dr. G. R. Bailey obtained first place, Dr. H. B. Thomas second, Dr. Norman Kerr third, and W. R. Cubbins fourth in the civil service examination for the orthopedic surgery service at Cook County Hospital.——Dr. and Mrs. Arthur H. Brumback leave for Europe early in July.—Dr. E. C. Dudley and son expect to sail for Havre, July 18.——Drs. William A. Evans and George W. Webster have been elected members of the executive committee of the Chicago local advisory committee of the American Health League.

Mortality of the Week.—During the week 508 deaths were reported from all causes, or 53 more than for the preceding week, equivalent to an annual death rate per 1,000 of 12.23. The chief increase in mortality was from diarrhea diseases of infants and young children. Violence (including suicide) led the death causes with 55; consumption caused 47; acute intestinal diseases and pneumonia, each, 41; heart disease, 38; nephritis, 35; and cancer, 25. Eleven deaths were due to sunstroke; 12 to diphtheria; 7 each, to measles and typhoid fever; 6 to whooping cough, and 3 to scarlet fever.

Fourth-of-July Wounds.—The bulletin of the health department urges strongly the proper care of every Fourth-of-July wound, no matter how insignificant. The procedures advocated are as follows: Free incision of every wound; careful and thorough removal of every particle of foreign matter; thorough cauterization of the wound with 25 per cent. carbolic acid solution; application of a loose wet pack of 2½ per cent. carbolic acid solution; and the administration of a full dose of antitetanic serum. The wound should not be closed in any way and the dressing and packing should be renewed every day.

INDIANA.

Society of Social Hygiene.—The Indiana Society of Social Hygiene was organized at Indianapolis early in April, with the following officers: President, John H. Holliday; vice-presidents, Rev. Edwin Hughes and Hon. L. C. Walker; secretary, Homer G. Hamer; treasurer, Frank D. Stalnaker; official lecturer, Dr. Charles S. Woods.

Hospital Damaged.—The patients in St. Vincent's Infirmary, Indianapolis, were thrown into a panic, June 6, by a series of explosions in a gas plant, and one patient, one nun and four attendants were injured by flying débris, following the explosion. The coolness of the nuns and other attendants in the hospital alone prevented serious disaster.

Communicable Diseases.—Four new cases of smallpox are reported from Landesville.——Smallpox is still reported from Crawfordsville.——The smallpox epidemic in the southern part of Carroll County is now said to be under control.——Two new cases of smallpox were reported in Fort Wayne, June 9.——Fort Wayne reports sixteen cases of scarlet fever.

Health Officers' School.—The annual school for health officers of the state, under the auspices of the State Board of Health, was held in Indianapolis, May 14, nearly 400 officers being present and receiving instruction. Papers on various sanitary subjects were read and discussed, and the filtration works of the Indianapolis Water Company were visited.

May Death and Disease.—The most prevalent diseases in Indiana during May were rheumatism, tonsillitis and bronchitis. The total number of deaths were 2,694, equivalent to an annual death rate of 11.8 per 1,000. During the month 275 cases of smallpox were reported in 33 counties, with no deaths. Tuberculosis caused 389 deaths; typhoid fever, 27 deaths; diphtheria, 9 deaths; and violence, 221 deaths. There were 24 murders, 4 suicides, 33 deaths from railway accidents, 4 from street car accidents, 5 from lightning and electricity, 20 from burns and scalds, and 23 from drowning.

IOWA.

Acquitted.—Dr. Elijah M. Heflin, Calmar, charged with having performed a criminal operation on a Miss Kopet, was found not guilty by a jury at Decorah.

Commencement.—At the annual commencement exercises of Keokuk Medical College, May 26, a class of 38 was graduated.——Sioux City Medical College, at its annual commencement exercises, June 4, graduated a class of 9. Rev. Willis S. McFaddin delivered the doctorate address.

Jury Disagree.—After being out forty-eight hours, the jury in the case of Mrs. Annie Arp, asking damages of $50,000 from Drs. Alphonse L. Hageboeck, Julius T. Haller and J. H. Meyhaus, Davenport, on account of injuries alleged to have been the result of leaving a surgical sponge in the body of the husband of the plaintiff, during an operation for appendicitis, reported that they were unable to agree, and were discharged.

Personal.—Dr. Jerger, Waterloo, is about to take a year's trip around the world, via the west.——Dr. Rose H. Rice, Council Bluffs, has been elected supreme physician of the Woodman Circle, to succeed Dr. Jenny Califas, resigned.——Dr. Lawrence W. Littig, Iowa City, is reported to be seriously ill with septicemia.——Dr. O. J. Ruth, Keokuk, was operated on at St. Joseph's Hospital, May 24, for cholelithiasis.——Dr. Charles J. Cooney has been elected health officer of Oelwein.——Dr. Frank E. St. Clair, Hampton, is reported to have been seriously injured in a runaway accident.——Drs. Joseph M. Emmert and C. L. Campbell, Atlantic, have been appointed physicians for the A. N. & S. Railway.——Dr. S. S. Lytle, Iowa City, has been chosen director of the Iowa Department, G. A. R.

KANSAS.

Communicable Diseases.—Measles is reported to be epidemic in and around Culver.——There are said to be six cases of smallpox in one house in Leavenworth.——Rock Creek is reported to be free from contagious diseases.

Personal.—Drs. Guy L. Millington, Wellington, and Edwin B. Packer, Osage City, have been appointed members of the State Board of Medical Registration and Examination.——Dr. Judson C. Cole, Effingham, has been appointed health officer of Effingham and Atchison County.——Dr. A. B. Occhali has located at Stockton, succeeding Dr. J. C. Hinkle.

KENTUCKY.

Heavy Damages Claimed.—A. T. Poole, administrator of the late Dr. Henry J. Poole, Robard, has brought suit against the Louisville and Nashville Railway for $20,000 damages for the death of Dr. Poole, who was run over and killed by a train in December last.

State Hospital Changes.—Dr. Robert L. Willis, Lexington, has been appointed by the State Board of Control for Charitable Institutions, superintendent of the Eastern Asylum for the Insane, Lexington, vice Dr. John S. Redwine.——The following officers of the Lakeland State Hospital for the Insane have been reappointed: Superintendent, Louis H. Mulligan; assistant physicians, Dr. W. E. Gardner, John K. Wood and Louise B. Trigg, Glasgow.——Dr. Thomas W. Gardiner, Madisonville, has been appointed superintendent of the Western Kentucky Asylum for the Insane, Hopkinsville, vice Dr. James W. Stephens.

LOUISIANA.

Lepers Cured.—In the annual report of the Leper Home of the State of Louisiana, it is stated that one patient had been discharged cured, and that five others were practically well, but were still being held for observation.

Faculty Changes.—Dr. Isadore Dyer has been elected dean of the faculty and Dr. Gustav Mann, assistant professor of physiology in Oxford University, has been made professor of physiology in the Medical Department of the Tulane University of Louisiana, New Orleans.

Against Tuberculosis.—A branch of the Antituberculosis League of New Orleans was established at Winnfield, June 12, with Dr. Jonathan J. Peters, president, and Dr. Isaac E. Seiss, vice-president.——A branch of the Louisiana Tuberculosis League was organized at Bunkie, June 9, with Dr. E. Stanley Matthews, president.

Personal.—Dr. Robert P. Jones has been appointed a member of the Board of Health of Clinton.——Dr. A. A. Aucoin, Plattenville, has been elected president of the Assumption Parish Board of Health.——The school board of New Orleans has elected Dr. Edmond Moss chief inspector, and Drs. Edward McCarthy and J. J. Wymer inspectors of school children.

Organization.—The Attakapas Clinical Society was organized at New Iberia, June 10, with the following officers: President, Dr. Henry A. King, New Iberia; vice-presidents, Drs. Robert D. Voorhies, Lafayette, and T. T. Roussel, St. Mary's Parish; and secretary-treasurer, Dr. T. J. Williams. The American Medical Association's principles of ethics were adopted by the society.

Alumni Meeting.—At the meeting of the Charity Hospital Alumni Association, held in New Orleans, the following officers were elected: Dr. James M. Batchelor, New Orleans, president; Drs. Arthur A. Herold, Shreveport, and Herman B. Gessner, New Orleans, vice-presidents; Dr. Charles N. Chavigny, New Orleans, secretary; Dr. Philip W. Bohne, New Orleans, treasurer, and Dr. Espy M. Williams, Patterson, historian.

MAINE.

New Health Officers.—Dr. Harris J. Milliken has been elected city physician of Bangor.——At the annual meeting of the Portland Board of Health, Dr. Edward J. McDonough was elected chairman.——At the annual meeting of the Westbrook Board of Health, Dr. Albion E. Cobb was elected secretary.

State Association Meeting.—The fifty-sixth annual session of the Maine Medical Association was held at Bangor, June 10 and 11, under the presidency of Dr. Barzillai B. Foster, Portland. The annual oration was delivered by Dr. Hobart Amory Hare of Philadelphia on "Hold Fast to that Which Is Good in Diagnosis and Therapeutics." The following officers were elected: Dr. Alfred D. Sawyer, Fort Fairfield, president; Drs. Calvin P. Thomas, Brewer, and Stanley P. Warren, Portland, vice-presidents; Dr. W. Bean Moulton, Portland, secretary, and Dr. Edwin W. Gehring, Portland, treasurer. It was decided to hold the next annual meeting in Portland.

Society Meetings.—The forty fourth annual meeting of Somerset County Medical Association was held in Skowhegan, June 18, when the following officers were elected: President, Dr. Walter S. Milliken, Madison; vice-president, Dr. Leander A. Dascomb, Skowhegan; secretary-treasurer, Dr. Howard C. Taggart, Skowhegan; censors, Drs. Charles A. Moulton, Hartland, Warren G. Sawyer, Madison, and David S. Hunnewell, Madison.——At the annual meeting of Kennebec County Medical Association, held in Augusta, the following officers were elected: Dr. Theodore E. Hardy, North Vassalboro, president; Dr. Herbert E. Milliken, Waterville, vice-president; Dr. Wellington Johnson, Augusta, secretary-treasurer; and Drs. Virgil C. Totman, Oakland, Richard H. Stubbs, Augusta, and Asa B. Libby, South Gardiner, executive committee.——A medical club has recently been organized among the younger practitioners of Portland, with seven charter members.

MARYLAND.

Smallpox Near Baltimore.—Dr. James F. H. Gorsuch, Fork, health officer of Baltimore County, reports the smallpox epidemic in the river suburbs as well under control, 15 patients being cared for in tents and 10 in the State Quarantine Hospital.

Election of Officers.—At the nineteenth annual meeting of the Baltimore and Ohio Association of Railway Surgeons, held in Chicago recently, Dr. Franklin B. Smith, Fredericksburg, was elected president, and Dr. T. Murphy, Relay, secretary-treasurer.

Physician Wins Suit.—In the suit brought for $10,000 damages against Dr. Adolph G. Freedom, for alleged improper treatment in a case of diphtheria, whereby the son of the plaintiff is said to have died, the jury, by instruction of the court, returned a verdict for the defendant.

Vaccine Physicians Appointed.—Drs. Foster Sudler, Sudlersville; William G. Coppage, Church Hill; Ernest F. Smith, Centerville; John R. Benton, Stevensville; Roland H. Ford, Queenstown; Walter H. Fenby, Ruthsburg, and E. A. Landers have been appointed vaccine physicians for Queen Anne's County.

Health Bulletin.—The first series of health bulletins issued by the Medical and Chirurgical Faculty of Maryland, appeared in the Baltimore *Sun*, June 25, and was entitled "Modern Medicine Aims to Prevent Diseases as Well as to Cure Them." The second appeared June 28, and was on "Lockjaw." The articles appeared anonymously.

Baltimore.

Alumni Election.—The Alumni Association of the University of Maryland School of Medicine held its annual meeting and banquet, May 29. Dr. Thomas M. Chaney, Chaney, of the class of 1866 was elected president.

Personal.—Dr. Robert S. Kirk has been re-elected superintendent, and Dr. John Roth, assistant superintendent, of the Eastern Dispensary.——Drs. Roland B. Whitridge and C. Urban Smith have sailed for Europe.——Dr. Benjamin F Lovelace, assistant in the department of chemistry, Johns Hopkins University, has been appointed professor of chemistry in the University of Alabama.——Dr. Frederick H. Baetjer sailed June 2 for Italy.——Dr. D. Webster Cathell has been ill at the Church Home Infirmary.——Dr. Philip S. Evans, Jr., a medical missionary in China, has returned to Baltimore, after an absence of seven years.——Dr. William D. Booker, who is now in Florence, reports that he is much improved in health.

MASSACHUSETTS.

Personal.—Dr. D. C. Rogers has been appointed assistant in applied psychology in Harvard University.——Dr. Prentiss, Harvard University, has been appointed assistant professor of anatomy at the Northwestern University Medical School.——Dr. F. C. Shattuck, professor of clinical medicine, Harvard Medical School, has had conferred on him the degree of LL.D. by the University of Cincinnati.

NEW YORK.

Death of Noted Optician.—Dr. Henry Lomb, one of the founders of the Bausch and Lomb Optical Company, Rochester, and one of the most prominent men in his line in the United States, died June 13, aged almost 80.

Typhoid at Auburn.—For the past ten years typhoid fever has pretty steadily prevailed in this city, there being from 21 to 68 cases yearly. This year the outbreak occurred earlier than usual, and by the latter part of May there had been 33 cases, with six deaths. This led the health officer to investigate. As there were only two articles universally used, milk and water, he supposed one of these to be responsible. The milk came from 14 different sources, and it did not seem reasonable to suppose all of these contaminated, so the water supply was investigated. It was found that at the head of Lake Owasco, from which the city supply is taken, there was a large influx of crude sewage. There seemed, therefore, but little doubt but that this was the source of the disease.

New York City.

Another Healthy Week.—Fewer persons died during the week ended June 20 than at any time since the establishment of the Health Department. There were 332 deaths less than for the week ended June 21, 1907. The rate was only equivalent to an annual mortality of 13.45 per 1,000. The Borough of Manhattan showed a lower death rate than any of the other boroughs.

Blow to Greater Bellevue Hospital.—The State Charities Aid Association has reported in opposition to the proposed enlargement of Bellevue Hospital and large expenditures for local and general hospitals in this city. They desire to have emergency relief stations in different parts of the city and eventually to replace these by local hospitals. The report provides for hospital needs until 1920.

Cooperation for the Suppression of Noises.—The health board has appealed to the police commissioner for aid in combating the noise nuisance. The noises are classified under four heads: the unnecessary whistling from boats in the rivers and harbor, the carting of loose metal through the streets, automobile horns and whistles and the noise incident to the Fourth of July. A patrolman will be stationed in front of every hospital on July 3, 4 and 5.

Poster War on Tuberculosis.—The committee on the prevention of tuberculosis have hit on a novel way of educating tenement dwellers in regard to the prevention of tuberculosis. A brilliant lithograph of a scene in Venice, around the border of which is printed advice in large type, has been distributed to 10,000 Italian families. The committee thinks the poster will be seen and its advice read by at least 50,000 persons. The same idea will be carried out among other nationalities.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended June 20, 428 cases of tuberculosis, with 143 deaths; 841 cases of measles, with 21 deaths; 377 cases of diphtheria, with 30 deaths; 410 cases of scarlet fever, with 25 deaths; 48 cases of whooping cough, with 3 deaths; 38 cases of typhoid fever, with 9 deaths; 7 cases of cerebrospinal meningitis, with 7 deaths; one case of smallpox and 108 cases of varicella, making a total of 2,258 cases, with 238 deaths.

Personal.—Dr. Adolph Meyer has been appointed director of the newly founded psychiatric clinic of Johns Hopkins University, Baltimore. Since 1902 Dr. Meyer has been director of the pathologic institute of the State Hospital of New York on Ward's Island. Since 1904 he has been professor of psychiatry in the medical department of Cornell University.——Warren Brown, Ph.D., assistant professor of psychology in Columbia University, has been appointed instructor in psychology in the University of California.

TENNESSEE.

Commencement.—At the commencement exercises of Tennessee Medical College, Knoxville, a class of 5 was graduated, Dr. W. Wallace Derrick, dean of the faculty, conferring the diplomas.

Personal.—Dr. A. C. Alexander, chief surgeon, and Dr. T. B. Hughes, assistant surgeon, of the Soldiers' Home, Johnson City, have resigned.——In the case of Dr. Abraham W. Boyd, Chattanooga, who was sued for $5,000 damages for alleged improper care of a patient, the jury returned a verdict in favor of the defendant.——Dr. J. Herman Feist, Nashville, who has been confined in jail for fifteen months past, has been released on bonds of $25,000.

New Medical Journal.—The advent of the *Southern Medical Journal* is announced at Nashville, the editorial staff consisting of Drs. Duncan Eve, Sidney S. Crockett, A. Bennett Cooke, William Litterer, Samuel M. Bloomstein, Joseph P. Keller, Marvin M. Cullom, William D. Haggard, Giles C. Savage, Lucius E. Burch, Hilliard Wood, George H. Price, Perry Bromberg, and George C. Trawick. The editor-in-chief will be Dr. John A. Witherspoon, and Drs. Worcester A. Bryan and James M. King will be the managing editors.

TEXAS.

Commencement.—The seventeenth annual commencement exercises of the Medical Department of the University of Texas, Galveston, were held May 30, when a class of 25 was graduated. Dr. James E. Thompson delivered the faculty address and President David F. Houston conferred the degrees.

Personal.—Drs. Wood and William A. Garrett, Houston, were painfully injured in a runaway accident, June 12.——Dr. James Greenwood, Jr., Seguin, has been appointed demonstrator of medicine in the University Medical Department, Galveston, and assistant physician to John Sealy Hospital, vice Dr. Wallace Rouse, deceased.——Drs. Joseph R. Stuart and John D. Duckett have retired from the board of health of Houston.

Alumni Meeting.—At the annual meeting of the Alumni Association of the Medical Department of the University of Texas, Galveston, held May 29, the following officers were elected: President, Dr. David H. Lawrence, Galveston, and secretary-treasurer, Dr. Henry Hartmann, Galveston. It was decided that an effort should be made to have a special meeting of the alumni in Galveston in May next, on the occasion of the meeting of the state medical association.

WASHINGTON.

Personal.—Dr. Aug. J. Ghiglione, Seattle, has gone to New York City to be away several months.——Dr. F. S. Burns has been made chief medical inspector of the health department, Seattle.

Prevention of Tetanus.—The health commissioner of Seattle, Dr. J. E. Crichton, has issued notice that in every case of wound from fireworks or premature explosion of revolvers or pistols, the victim immediately be inoculated with antitetanic serum.

Hospital Notes.—The contract for the construction of the new three-story addition to King County Hospital, Georgetown, has been awarded, to cost $44,273.——It is proposed to ask the state legislature for an appropriation to build a hospital for the criminal insane.——The new open-air house of the Orthopedic Hospital Society of Seattle, was formally opened to public use, June 3. The building is intended for convalescents from the orthopedic ward of the Seattle General Hospital, and will accommodate 8 patients.

WISCONSIN.

Personal.—Dr. Warren B. Hill has been elected dean of Milwaukee Medical College, vice Dr. William H. Earles, deceased.——Dr. Samuel Bell, Beloit, has been elected medical director of the Department of Wisconsin, G. A. R.——Dr. William F. Becker, Milwaukee, has been reappointed president of the Milwaukee Hospital for the Insane.——Dr. Andrew C. Mailer has been appointed health officer and city physician of De Pere.

Commencement Exercises.—The graduating exercises of the Milwaukee Medical College, Medical Department of Marquette University, were held at the Davidson Theater, May 25. Rev. James McCabe, president of the university, conferred degrees on a class of 50, and the doctorate address was delivered by Dr. William A. Evans, health commissioner of Chicago. The program of the graduation exercises was arranged in the nature of a memorial to the late dean, Dr. William H. Earles. A dinner in memory of Dr. Earles was held at the Plankinton House, June 23, at which Dr. H. L. Banzhaf officiated as toastmaster, and addresses were made by Dr. W. Augustus Evans and Truman W. Brophy, Chicago, Mayor Rose and John H. Moss.——The fifteenth annual commencement exercises of the Wisconsin College of Physicians and Surgeons were held May 28, when a class of 9 was graduated. The dean, Dr. Thomas C. Phillips, assisted the president, Dr. A. Hamilton Levings, in conferring the degrees. It was announced that a large free dispensary would be established by the college on property now owned by the institution on Reservoir Ave., adjoining the college buildings.

GENERAL.

Another State Journal Established.—The first number of *The Journal of the Oklahoma State Medical Association* was issued the first of the month. It contains an account of the recent meeting of the state association, the address by the president, the proceedings of the house of delegates, and a full roster of the members of the state association, with a list of the county societies and officers, as well as a number of original articles, case reports, news items, etc. The journal is edited by the secretary of the state association, Dr. Eugene O. Barker, Guthrie, who has as his assistants the board of councilors of the state association. This journal will certainly prove of great assistance to the association in carrying on its work in Oklahoma, and will be of great value to the members. The new journal is issued in magazine form, 6½x10, and typographically is a credit to the association.

Pan-American Congress Routes.—Dr. Ramon Guiteras, secretary, 75 West Fifty-Fifth street, New York, announces these routes to and from the Fifth Pan-American Congress at Guatemala, Aug. 5 to 10, 1908: *New York by train to New Orleans;* thence by United Fruit Company steamer to Puerto Barrios on the Gulf; thence by train to Guatemala City, $56, plus the price of food and sleeper on train to New Orleans. Time, seven days. *From the Middle West*, rates and time about the same as above. Steamers leave New Orleans for Puerto Barrios Thursday mornings at 10 o'clock. *From San Francisco* by boat to San Jose; thence by train to Guatemala City, $76.50. Time, eleven days. *Return trips*, by the same routes and at the same expense as above; or by train from Guatemala City to San Jose; thence by boat to Salina Cruz, a Mexican and Pacific port; thence overland to City of Mexico. Cost, $53. Or: From City of Mexico to New York entirely by rail, including berth, $80. Total cost from Guatemala City to New York City, $133. Probably the same to the middle west. Or: From City of Mexico to Vera Cruz, $10; thence by Ward Line Steamer to New York, stopping at Yucatan and Cuba, $60. Total cost from Guatemala City to New York City, $123. Hotels at Guatemala charge $2 and $4 a day. The Capitol at Guatemala is situated on a plateau, one mile above sea level. August is the time of year known as the "cunicula," when there is no rain and the heat is not as great as in our own southern states.

FOREIGN.

Plague in China.—Vice-Consul Baker reports that plague has become epidemic at Amoy. This disease is also present in Hongkong.

Quadricentennial of Madrid University.—Preparations are being made in Spain to celebrate on an extensive scale the four hundredth anniversary of the founding of the University of Madrid, Oct. 18, 1508.

Medal for Rubner.—The professor of hygiene at Berlin, Dr. Max Rubner, has been awarded the Liebig gold medal by the Bavarian Academy of Sciences for what he has done for veterinary science. Rubner's research was on the metabolism of the higher animals, and it unexpectedly developed some new points of view for the proper feeding of cattle.

Physician Beloved by a Community.—The *Gazzetta degli Ospedali* relates that the entire population of the town of Stiava, in the province of Lucca, Italy, gathered recently at the town hall to protest against the removal of the district physician (medico condotto) who had been ordered to another point. He had endeared himself to the community by fifty years of service, and the district was in a tumult until the order was countermanded.

Memorial to Annandale.—A reference to the memorial to the late Dr. Annandale, professor of clinical surgery in the University of Edinburgh, appeared in The Journal, May 9, 1908, page 1535. A sum of $1,160 has been subscribed and $840 remains to be found. Subscriptions may be forwarded to Dr. H. M. D. Watson, at 13 Rutland Square, Edinburgh, secretary and treasurer to the committee. The subscription list will close on July 31.

Medical Study Trips Abroad.—The Italian Society for Climatology and Physical Therapy has organized an educational excursion to some of the Italian watering places, starting at Milan this week. The eighth German medical study trip will include a visit to the Canary Islands. It is in charge of Professor von Strumpell, of Breslau, and will leave Hamburg September 1. A large party of French physicians recently visited London on the occasion of the inauguration of the Franco British exhibition.

Zaufal Retires.—At Prague, May 23, the clinic for diseases of the ear celebrated its thirty fifth anniversary, and at the same time, Prof. E. Zaufal retired from its leadership. Zaufal founded the clinic in 1873, and it has always taken a leading place in surgery of the ear. He is said to have been the first to make bacteriologic examination of middle ear affections and to operate in otogenic sinus thrombosis. He is now 71, and the occasion proved an ovation from scientific societies, and the profession generally in the German speaking countries. It is described in the *Prager med. Wochenschrift*, June 4. Zaufal was one of the founders of this journal thirty-three years ago.

Decisions of the Prussian Medical Tribunal of Honor.—Among the recent decisions is one acquitting a physician of unethical conduct when he increased the amount of his bill, as it was returned to him by the patient for specification of details. The total was not exorbitant. In another case a surgeon found that no dressings had been supplied for the operation he was performing and he made a caustic remark on the bad management of the director of the hospital in his presence. This case was dismissed as trivial. In another case a physician wrote on his certificate for a victim of industrial trauma "If Dr. X says that there are no symptoms on the part of the nervous system he either overlooked this striking symptom complex or did not wish to see it." The court regarded the last seven words as a serious insult to another physician and imposed a corresponding penalty, although conceding that scientific criticism of the certificates of other physicians is allowable.

The Irish Medical Association.—The annual meeting of the Irish Medical Association was held in Dublin June 10 with Prof. J. S. McArdle vice president, in the chair. Sir William Smyly, the incoming president, in his address referred to the progress being made in the campaign against tuberculosis, and mentioned especially the work done by Lady Aberdeen. In regard to his own specialty of midwifery, he pointed out that improvement is needed. The old types of practitioner and midwife have passed away and those now engaged in the work are fully alive to their responsibilities. But even now he said, the average mortality of childbirth is nearly double that which exists in well managed hospitals. He recommended practical clinical examinations in lying-in hospitals and regular attendance at these institutions. He expressed the opinion that the midwives act would prove a beneficial measure to poor women in Ireland who are dependent on midwives for care during labor.

LONDON LETTER.

(From Our Regular Correspondent.)

London, June 13, 1908.

The Sanitary Work of the Port of London

The work of the Port Sanitary Committee of London in a single year is considerable. For its performance there are a medical officer, five assistant medical officers, three food inspectors, eight sanitary inspectors, and a large staff of nurses at Gravesend Hospital. The work of preventing disease from entering London by the river goes on day and night. Last year 37,000 visits of inspection were paid—18,000 to vessels from foreign ports and 19,000 to "coastwise" craft and 252 cases of infectious disease about to enter the port were detected. A constant war is waged against rats. Nearly 53,000 were destroyed last year—15,000 in the docks and 38,000 on vessels. Dr. Williams, the principal medical officer, in his report for 1907 makes the interesting statement that scurvy has practically disappeared from the mercantile marine. He attributes this to the fact that voyages are shorter and that better methods of preserving food are adopted. An important branch of the port authority's work is the seizure and destruction of unsound food. Nearly 3,000 tons of food were condemned. This included 3,000 carcasses of mutton, 5,000 packages of fruit, 1,000 chests of tea, and 7,300 eggs, besides rabbits, fish game and vegetables. The cost of the sanitary administration in the year was $50,000.

The Crusade Against Tuberculosis in Ireland.

The crusade against tuberculosis in Ireland has been described in previous letters. The most important step was the founding by Lady Aberdeen, in 1907, of the Women's National Health Association to arouse the women of Ireland to the fact that each year almost 12,000 of the people die of consumption. She organized the tuberculosis exhibition and its success was so great that when the time came for it to start on a tour through Ireland so many towns asked for it that two exhibitions had to be prepared—one for going north and the other south. Up to the present these exhibitions have visited 60 towns and over 700,000 people have attended them—about one-sixth of the population of Ireland. The question may be asked, will all this produce any lasting benefit? Already it has done so. In Dublin a system of home nursing for consumptives has been introduced by means of the cooperation of the medical staffs of the hospitals and the Women's National Health Association. The nurses teach the patients and their friends the ordinary measures for preventing the spread of the disease—the importance of thorough ventilation and cleanliness. They also advise the best dietary and, in many cases, assistance is given in obtaining eggs, milk, meat, etc. Many other towns are following this example. In consequence of the educative effect of the exhibitions guardians of the poor and urban councils are putting up chalets, sheds, etc., in which tuberculous patients can be treated. These sheds are inexpensive, and being erected on the grounds of the hospitals, their cost of keeping is small.

The Supply of Male Nurses.

A want has long existed of a sufficient supply of male trained nurses for cases in which the female nurse is undesirable or objected to by the patient. This want has been filled by the "Army and Navy Nurses Cooperation," which was founded last year with the object of supplying well-trained nurses and sick attendants of good character, at the same time providing employment for retired non commissioned officers and men of the nursing section of the Royal Army Medical Corps and of the Sick Berth Staff of the Navy. In explaining the objects of the institution Sir Frederick Treves said that a large section of the public held that a considerable number of patients who were now nursed by women should be nursed by men. But it was difficult to obtain trustworthy male nurses. They could only come from one course of training—the great naval and military hospitals, where a first-class course of instruction was given. The money earned by the nurses will be handed to them minus a small commission which is so small that it does not pay the working expenses of the institution.

A Coroner on Operations.

Coroner Troutbeck, who has aroused great animosity in the profession by calling in a pathologist in almost all the cases in which he orders a necropsy, and ignoring the local physician, now finds himself in conflict with one of the leaders of the profession, Sir Victor Horsley. Troutbeck held an inquest on a woman who died after the removal of a tumor from the brain, and he summoned this world-famous surgeon who was the operator. Sir Victor Horsley said that the case was such an ordinary one that he could not understand why an inquest was held. The coroner replied that, owing to the advance of surgery, operations were much more frequent than they used to be. Clearly they were, to some extent a cause of deaths and came within the Coroner's Act which made inquests imperative in cases of deaths due to violence. Sir Victor Horsley pointed out that if this were so, 10,000 inquests would have to be held annually. In his remarks to the jury, the coroner said that a considerable proportion of deaths, which in great part were due to operations, were never reported to the coroner. They were certified and, owing to the system of certification, were accepted. As a result, the public were in complete ignorance as to what proportion of deaths were accelerated by operations. This was a serious matter for which a legal remedy was required. He did not intend to let the matter stand. He regarded it as extremely important from the public point of view, and in these matters the coroner represented the public, that such cases should be inquired into. They could leave these questions to no profession, however honored or however skilled. In the case before the court he directed that a proper verdict would be accidental death, if the jury were satisfied that the operation was justifiable and that all due care had been taken. Such a verdict was returned.

BERLIN LETTER.

(*From Our Regular Correspondent.*)

Berlin, June 12, 1908.

The Late Professor Hoffa and the Chair of Orthopedics.

As has been announced in the American press, Professor Hoffa of the Berlin University died some months ago. He was quite closely related to Americans, as he was born in South America. Four years ago, as is well known, he visited America and was much fêted by his American colleagues, which was not to be wondered at considering his charming personality and his remarkable scientific reputation. At the University of Berlin he was the official representative of orthopedic surgery, the second in this position, as his predecessor, the renowned Professor Wolff, was entrusted with the first professorship for this special branch. It created not a little sensation when the faculty, which of course, included the ordinary professors of surgery, made the proposition to the government that the chair (it is not a so-called regular professorship, but merely an "extraordinary" one) of orthopedic surgery should be permitted to lapse and that the orthopedic clinic and polyclinic should be united with one of the two surgical clinics. The proposal aroused opposition both among physicians and with the government which was supported by the public, especially in the Prussian parliament. The government consequently determined not to grant the request of the faculty, but to call a successor to Hoffa. The first attempt to find a suitable man was a failure. Prof. Friedrich Lange in Munich, a very capable man in his profession, refused a call. As usually happens, considerable concessions were made to him by the Bavarian government in order to retain him. He was made a professor in ordinary, i. e., a full member of the faculty, whereas, hitherto he, like Hoffa, had been only a professor extraordinary, and did not belong to the official body of the faculty, thus occupying as it were the position of a professor of the second class. This is the first instance in Germany of the advancement of orthopedic surgery to the dignity of a full professorship. But it will doubtless soon find imitators. It is still uncertain who will be called to Berlin in place of Lange. So far as I know the government has at present in view privat-docent Dr. Wullstein of Halle. The teaching position will not be definitely occupied during the summer but will be held in the interim by a former assistant of Hoffa. Such temporary occupation of ordinary or extraordinary professorships is now more common than formerly in our universities, and more common than should be the case. Even the regular professorship of pharmacology in Bonn, where Professor Binz has retired on reaching the age limit, as well as that in Marburg and in Göttingen are at present temporarily filled.

Cremation in Prussia.

Cremation has hitherto not been permitted in Prussia. There are in Germany only fifteen institutions for burning bodies, so-called crematories, in Hamburg, Heidelberg, Gotha, Jena, etc. At Hagen, in Westphalia, a local society has erected a crematory, but the use of it has been forbidden by the police. As announced in the political press a legal regulation of the practice is to be instituted with a favorable settlement of the question.

The Virchow Monument.

The matter of the Virchow monument has taken on a tragico-comic character. As is well known, the plan was made in 1902, shortly after the death of the great master, to erect a monument in a public square in Berlin. For this purpose a competition was started by the committee in the usual way which resulted in a number of designs for the monument being submitted. The jury, two years ago, awarded the first prize to the design of a talented sculptor, and gave him the right to erect the monument. The design, according to the opinion of many people, does not correspond to the requirements expressed in the original plan of the monument committee, viz.: "That the monument should bear witness to the high esteem in which the German nation held the great investigator, even after his death." The design is not a statue of Virchow himself, but introduces as the chief group, a symbolic representation of the lifework of Virchow, in the form of a struggle between a Herculean giant and a fabulous beast, while on a classic pedestal (beautiful in itself), only a small medallion portrait of Virchow was placed. Energetic opposition was made against this design, especially on the part of the Berlin profession. The *Deutsche medizinische Wochenschrift* first took up the work and protested that for a man like Virchow "who abhorred every mystic and symbolic ambiguity, and who represented in the highest degree the exact investigator of nature, a monument is erected on which the personal and peculiar character to be preserved for posterity sinks to a dwindling little ornament, while elevated to the chief place is a group which symbolizes any fact you please from the struggle of the physical or intellectual giants of the world's history." To these, and other protests, the artist gave so much heed that he enlarged the medallion portrait and placed on the pedestal some reliefs that presented Virchow in his character as teacher. Unfortunately the carrying out of the design could not be hindered by the protest, but now a decided check has been interposed. The emperor, who under certain circumstances must give his consent to the erection of monuments in the public squares of Berlin, has expressed himself against the monument in its present form on similar grounds to those taken by the *Deutsche medizinische Wochenschrift*. One can not agree with all the views of our emperor on art and many innovations in the municipal art of Berlin, lacking in beauty, are referable to the will of the emperor, but in this case we can only be thankful to him that he is willing to protect us from a monument that would in no way be representative of Virchow. What further course the matter will take, whether the monument will be constructed and erected in some private square of the city (perhaps the Rudolph Virchow Hospital) or not, will be known in the near future.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

Vienna, June 10, 1908.

Yellow Phosphorus in Matches.

Since the government has published the essential features of the new bill (to be brought before parliament in the autumn), regulating the use of yellow phosphorus in the manufacture of matches, the Vienna Medical Society has appointed a medical committee to investigate into and report on the conditions prevailing in the trade. About 70 per cent. of all matches made in Austria are made of the yellow phosphorus, the majority of the factories being in Bohemia because of the laxity of the law there. Phosphorus necrosis is not seen as frequently now as it was ten or fifteen years ago, but the records show that in Bohemia about 35 or 40 cases have been received annually for the last decade. Among the lower classes it is not unusual for match-heads to be taken internally as an abortifacient, and many cases of so-called attempted suicides by phosphorus poisoning are really the result of attempted criminal abortion. In Vienna alone the statistics show that 791 females and 80 males have, within the past ten years, attempted to kill themselves by eating match-heads. The mortality is high, no fewer than 340 having succeeded in killing themselves. The result of the committee's investigation was that there seems to be no positive way of preventing phosphorus necrosis except to prohibit the use of yellow phosphorus and substitute the amorphous form of the chemical.

Resignation of Professor Toldt.

Professor Karl Toldt, the famous anatomist, intends to resign his position as director of the second anatomic institute because his research and literary work take all his time. Toldt is the author of many text-books on anatomy, the best known among them being his handbook of anatomy which he wrote in collaboration with Langer. One of his latest books is the "Atlas of Anatomy" which is a departure from the type usually seen. Professor Toldt is now engaged in completing his great work, "Anthropology," and as he is now 68 years old he does not wish to delay his self-appointed task longer.

Medical Council Conflicts with a Sick Benefit Society.

The system of sick-benefit societies (*Krankenkassengesetz*) which makes the physician do much work for small remuneration has not hitherto been successfully fought in Austria because of the lack of proper organization on the part of the profession. The medical council of Vienna, a representative body equipped with certain disciplinary powers, recently ordered that a newly formed sick benefit society of bank clerks be boycotted by medical men. The sick benefit society appealed to the courts on the ground that the existence of sick benefit societies is required by law and the action of the medical council prevented the club from complying with the law. The court upheld the contention of the sick benefit society and its decision can not be appealed from. This occurrence has aroused the profession so that the Society to Promote the Economic Interests of Physicians, which was founded about a year ago, has increased its membership to such an extent that a boycott can now be maintained without fear of any court being able to interfere.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO

(*Continued from page 2146.*)

XV. SOME STUDIES IN BOTTLED PSYCHOTHERAPY

Great is the influence of mind over the body! Evidently, though, its potency of suggestion can be greatly enhanced by the simple process of marketing it in bottles, enhanced to the degree that it controls, not only the body, but also bacteria—and, even ferments. How else can we explain the testimonials of the psychic digestants and psychic antiseptics—when it comes to the psychic cardiac tonics, however, this simple explanation fails.

I. PSYCHIC DIGESTANTS

In The Journal, Feb. 2, 1907, page 434, the Council exposed the absurdity of liquid mixtures of digestive ferments. In the same and succeeding issues, the experimental evidence was quoted and on February 9, the statements of text books were contrasted with the claims made for these preparations. In The Journal, March 16, 1907, the Council reported that Lactopeptine, even in powder form, contains no pancreatic ferment, and only a small amount of pepsin. This result was confirmed by Prof. Charles H. Miller in The Journal, March 23, 1907. Indeed, all this had been anticipated by Prof. Emil Scheffer in 1876.

But profitable falsehoods die hard—which is the reason for again referring to these facts. The reply of the Lactopeptine manufacturers to the Council was the bald assertion that "the ferments referred to exist in the preparation as stated in the formula." Toward the profession, they have adopted a somewhat different tone, implying that the attitude of the Council is mere theory, and that Lactopeptine has "convincingly demonstrated, beyond all question, its practical value." They take pride in contrasting "theory" with "common sense." This is somewhat of a reflection on the acumen of the clinical authors who have condemned these mixtures—Boardman, Reed, Potter, Stevens, Yeo, Butler, Hemmeter, Gilman, Thomson, H. C. Wood, Crofton, Culbreth, and others.

Even if there were this difference between "theory" and "common sense," would it not be well to look for the simplest explanation, before resurrecting or resynthetizing pancreatin from its proteolytic cleavage products by the mysterious vital activity of the intestine? Many patients with digestive disorders doubtless improve under Lactopeptine—*plus* this, that and the other. But then, do they not improve under this, that and the other—*minus* Lactopeptine? I have even heard of digestion being improved by mere attention to diet, without any drugs; I have heard of the (peptic) juice being increased by pleasant tasting substances—and Lactopeptine Elixir does taste pleasant. I have also heard of amulets, and of psychotherapy!

The demonstration of a ferment has thus far been considered as belonging to the domains of chemistry; the promotors of Lactopeptine and the inventors of nucleoenzymes would transfer it to the domain of psychology.

II. PSYCHIC ANTISEPTICS.

What a fine antiseptic odor and taste are possessed by thymol! After comparing the odor and taste of a saturated solution of thymol with a 5 per cent. solution of phenol, or a 1 per cent. solution of corrosive sublimate, could one doubt for a moment which is the most active? Evidently not, for thymol, plus small quantities of boric and benzoic acid, under the name of Listerine, sells at a dollar a bottle. It is really too bad that bacteria can not recognize a superior antiseptic as well as the nose—for, according to the bacteriologic tests, as quoted by Wood, four hundred and ninety-five dollars' worth of Listerine has the antiseptic action of a cent's worth of corrosive sublimate; or fifteen dollar's worth of Listerine equals a cent's worth of carbolic acid.

III. PSYCHIC CARDIAC TONICS.

Thanks to the unique discoveries of the eminent pharmacist of St. Louis, Mr. Sultan, and of the eminent exploiters of alkaloids (and a few other things) the Abbott Alkaloidal Company of Chicago, the treatment of heart-disease has been much simplified. *Cactus grandiflorus*, the famous Mexican plant, contains an inactive active principle, isolated in pure form as an impure extract, which has the most remarkable actions on the human heart. Should the heart be too slow, cactus quickens it; if the heart is too fast, cactus slows it; should the heart be too weak, cactus strengthens it; if the heart is too strong, cactus weakens it; does the heart wobble, cactus steadies it; if the heart is normal, cactus does not meddle with it. No need to make a diagnosis—whatever is wrong or right with the heart, cactus fixes it.

The field of usefulness of this remarkable drug is being constantly extended. As the pellets or granules consist almost entirely of sugar, and are absolutely harmless in doses of one hundred or more (see The Journal, Sept. 21, 1907, page 1023; and March 21, 1908, page 956), they might be useful as an infant food.

A further property of this remarkable drug is that its action is confined to the human heart. This also opens up a new field for the drug in ethnologic research.

N. B.—A definite diagnosis of the cardiac lesion should not be made, since this interferes materially with the efficiency of cactus. Please refer to the title of this paragraph.

(*To be continued.*)

[Contribution from the Chemical Laboratory of the American Medical Association.]

UNOFFICIAL PREPARATIONS OF HYDRASTIS (GOLDEN SEAL).

W. A. Puckner.

In the price-lists issued by most manufacturers of pharmaceutical products there are to be found listed under fluidextracts, the following preparations of golden seal (hydrastis): "Golden seal U. S. P.," "Golden seal, aqueous," "Golden seal, colorless." As the term, "fluidextract," or "fluid extract," designates a class of pharmaceutical preparations of which 1,000 c.c. represent 1,000 gm. of the drug, the several golden seal preparations should be of the same drug strength. It is difficult, therefore, to understand why these preparations should differ so widely in prices. Thus, a recent price-list (Ray Chemical Company) quotes them at $3.60, $2.75, and $1.25 a pint, respectively, in the order named above.

The price lists of some manufacturers shed light on this subject to some extent, at least. Thus H. K. Mulford Co.'s catalogue contains under fluidextracts, "Hydrastis U. S. P.," "Hydrastis, Aqueous (without alcohol)," and "Hydrastis, Colorless (non-alcoholic)," but a foot-note explains that the last preparation is one of those which "differ from fluidextracts in that they are not made 1 gm. to the c.c." So also the price-list of Parke, Davis & Co., which quotes "Golden Seal," "Golden Seal, Aqueous" and "Golden Seal, Colorless," contains an explanatory note which states that "Golden Seal, Colorless" does not represent the crude drug minim for grain.

On the other hand, the price-list of Hance Bros. & White contains an explanatory note which leads to the inference that their golden seal preparations are all of the same strength, thus:

> "The Golden Seal used in our preparations is assayed to the standard of 2 per cent. white alkaloid Hydrastin, this being the alkaloid which produces the characteristic physiologic effects.
>
> "We list three Fluid Extracts, Golden Seal U. S. P., Golden Seal, Aqueous, and Golden Seal, Colorless. Fluid Extract Golden Seal, U. S. P., contains resinous matter and will not make a clear

solution with water Fluid Extract Golden Seal, Colorless contains only the white alkaloid Hydrastine in an aqueous solution and is especially prepared for medication of the genito-urinary mucous membrane It makes clear solutions with water and does not stain linen"

Yet the preparations are offered, respectively, at $4 50, $3 75, and $3 per pint.

Evidently, therefore, there is something radically wrong in the system which lists under fluidextracts, Golden Seal, Aqueous and Golden Seal, Colorless. To investigate the matter further, the products of a number of manufacturers were purchased in the open market and examined.

GOLDEN SEAL, AQUEOUS.

The table below gives the descriptions as they appear on the labels of the products supplied by the manufacturers and also the percentage of the alkaloid hydrastin which they were found to contain when examined by the process of the U. S. Pharmacopeia and by a modification of the official method (Method B). The results of the assays by the latter method, as has been explained elsewhere,[1] are somewhat higher than those obtained by the official method. The latter determinations were made, and the results are recorded only as a verification of the values obtained by the first, the official method. It should be remembered that the official strength of fluidextract of hydrastis is 2 gm alkaloid to the 100 c c, whereas, the preparations mentioned below varied from 0 58 to 1.79 gm

GOLDEN SEAL AQUEOUS

No	Firm.	Title on label.	Claims made.	Grams of hydrastin in 100 c c of preparation By U S P. Method	By Method B
1	Hance Bros and White	"Fluid Extract Golden Seal aq"	"The irritating resin of golden seal is eliminated and only the alkaloid retained"	1 43	1 49
2.	Eli Lilly & Co.	"Fluid Golden Seal (Non alcoholic)."	"The resin and other inert matter is eliminated while the hydrastin and berberin are retained in natural combination, 1 25 gm hydrastin in 100 c c"	1 09	1 16
3	H K Mulford Co	"Fluid Extract of Hydrastis aqueous"	"Represents the medicinal properties of hydrastis but excludes the resinous extractive"	0 58	0 64
4	Parke, Davis & Co	"Fluid Golden Seal, Aqueous"	"Represents the medicinal properties of hydrastis The resinous extractive has been excluded" "Standard 1 per cent hydrastin"	0 93	0 95
5	Ray Chemical Co	"Ray's Fluid Ext Golden Seal non alcoholic"	"Represents the medicinal properties of hydrastis The resinous extractive has been excluded"	0 77	0 82
6	Schieffelin & Co	"Aqueous Fluid Extract of Hydrastis"	No statement" except "contains no alcohol"	1 31	1 35
7.	Sharp & Dohme	"Fld Extr Golden Seal Aqueous"	"Each cubic centimeter represents 1 gram of Golden Seal"	1 50	1 62
8	Frederick Stearns & Co	"Fluid Extract Hydrastis Aqueous"	"No claims made	1 79	1 79
9	Truax Greene & Co	"Fld Ext Golden Seal without alcohol"	"Contains all the native principles of the drug except the inert gummy and resinous matter . ."	1 04	1 10
10	Wm Warner & Co	"Fluidextract Golden Seal without alcohol	No claims made	1 26	1 35

The above table shows that, with one exception (No 8), the "non-alcoholic," "aqueous" hydrastis preparations examined should not be designated as fluidextracts since they do not contain the amount of the alkaloid hydrastin which the Pharmacopeia directs for fluidextract of hydrastis (2 per cent.). Only one product, that of Stearns, approached the alkaloidal strength the official fluidextract. In reply to an inquiry, Frederick Stearns & Co. claimed that the preparation was made in April, 1907, and at that time assayed exactly 2 per cent. hydrastin.

Two firms, Eli Lilly & Co, and Parke, Davis & Co., do not use, on the label, the word "fluidextract," but instead, call their preparations, respectively, "Fluid Golden Seal, Non Alcoholic," and "Fluid Golden Seal, Aqueous." These firms also state the amount of alkaloid which these preparations contain, viz, 1 25 per cent, and 1 per cent., respectively, and the examination confirms these claims in a general way.

The results of the analyses were submitted to the several firms interested who were requested to state how these results agreed with those obtained by their own chemists The replies received, indicate that either the preparation is made and sold without control of its alkaloidal strength or, if assayed, no attempt is made to meet the official standard for fluidextract of hydrastis.

In brief, this examination demonstrates that few of the so called "non alcoholic" or "aqueous" fluidextracts of golden seal, deserve the title, "Fluidextract." It also indicates that, in addition to the claim that the inert constituents have been removed, equal prominence should be given to the fact that, to a large extent, the chief active constituent also has been removed. The replies of the manufacturers generally indicate that being an unofficial preparation, little attention is paid to its strength (something on the order of the "eggs good enough for custard," of Mr. Peck's illustrious son); but they also show a willingness to improve the quality of the product or to label it properly.

GOLDEN SEAL, COLORLESS.

On the labels of the trade packages of the so called "Golden Seal, Colorless" preparations, the following descriptions appear

Hance Bros & White "Liquid Golden Seal, Colorless" "One fluidounce represents one and one quarter grains (0 081 gm) hydrastin"
"This preparation is simply a solution of the White Alkaloid of Hydrastis Canadensis in approximately the proportion in which it exists in a prime quality of the drug—twenty grains to the pound—and without the addition of any ingredient intended to increase its action"

Eli Lilly & Co: "Liquor Hydrastin"
"This preparation, frequently called 'Colorless Hydrastis,' contains the colorless medicinal principles of Golden Seal"

H K Mulford Co: "Fluid Hydrastis (Colorless)"
"Each pint of the fluid contains 20 grains of white alkaloid, the only valuable constituent of Hydrastis"

Parke Davis & Co · "Fluid Golden Seal, Colorless"
"Each fluidounce of this fluid contains 1¼ grains of Hydrastin, the white alkaloid of Hydrastis (Golden Seal)."

Ray Chemical Co . "Ray's Fluid Extract Golden Seal (Colorless)"

Sharp & Dohme "Fluid Golden Seal, Colorless"
"Each pint contains 20 grains Hydrastin White Alkaloid, the principal and most valuable constituent of Golden Seal"

F Stearns & Co: "Fluid Golden Seal (Colorless)"
"Each fluidounce of this preparation contains 1¼ grains of Hydrastin (White Alkaloid), to which, recent investigations have shown, the valuable properties of Golden Seal (Hydrastis) are due"

Truax, Greene & Co · "Liquid Hydrastin"
"Fluid Golden Seal, Colorless"
"One pint of this solution contains an amount of the 'White Alkaloid' Hydrastin equivalent to that contained in one pound of fresh Golden Seal root of average quality"

H K Wampole & Co "Fluidextract Golden Seal, Colorless"
"Each pint contains, in a non alcoholic menstruum Hydrastin, 20 grains"

Wm R Warner & Co · "Fluidextract Golden Seal, Colorless"
"Each pint contains 20 grains Hydrastin"

The above shows that only a few firms use the word "fluid extract" on the label; nor, with one or two exceptions, is any attempts made to make it appear that the preparation approaches fluidextracts in strength. In general, the labels show that they are weak solutions of salts of hydrastin. While the fluidextract of hydrastis contains 2 per cent of alkaloid, these preparations contain less than 0 3 per cent.

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[1] Pharmaceutical Review, May, 1908, p 132

[2] In Schieffelin & Co's prices current of March 30 1907 it is stated that "Hydrastis aqueous" is standardized to U S P strength On corresponding with this firm it appeared that the sample analyzed was of old stock, of which Schieffelin & Co said "None of the old stock should have been sent out subsequently to the issuing of the price list, and we regret to find that a few liters of what we had on hand were sent out Therefore, we have no doubt that your analytic results are correct and we can only express our mortification that our oversight should have put us in this position" Analysis of a new specimen submitted showed the amount of alkaloid present as represented—that is of standard U S P. strength

The statement made by Truax, Greene & Co. that one pint contains an amount of hydrastin equivalent to that contained in one pint of fresh golden seal root is, to say the least, misleading. Casual reading gives the impression that this preparation contains an amount of alkaloid equivalent to that prescribed for the official fluid extract. The word, "fresh," however, which probably will, and perhaps is intended to escape the reader, is of considerable importance in this case. According to J. U. Lloyd[3] and Alice Henkel[4] every 100 pounds of fresh golden seal, when dried for the market, yields only 28 to 30 pounds.

Since the U. S. Pharmacopeia requires that golden seal contain 2.5 per cent. hydrastin, the "fresh" drug should contain only 0.6 per cent. The preparation of Truax, Greene & Co., however, does not contain even this amount; examination[5] indicating that it contains less than 0.25 per cent. of hydrastin. To a considerable extent, the same criticism applies to the product of Hance Bros. & White, who state that the alkaloid is contained in their liquid Golden Seal, Colorless, "approximately in the proportion in which it exists in a prime quality of the drug." This is followed by the acknowledgment that it contains 20 grains to the pound. Hance Bros. & White apparently feel confident that physicians are quite unfamiliar with the alkaloidal content of drugs!

THERAPEUTIC INDICATIONS.

In conclusion, the following statements taken from the label for these preparations show the extent to which some manufacturers go in their desire to tell physicians (and others?) the various uses to which this remedy may be put:

> "It is indicated in atonic dyspepsia, gastritis, and in the treatment of catarrhal affections of the mucous surfaces; also a wash in conjunctivitis and an injection in gonorrhea, vaginal leucorrhea and inflammation and ulceration of the mucous lining of the bladder. It is free from all staining properties. When used as a wash or injection, it should be diluted with from four to twelve times its volume of water." (Hance Bros. & White.)
>
> "Non-irritant, permanent, will not stain, contains no alcohol. Will be found useful wherever Golden Seal is indicated."
>
> "Medicinal Uses: It is recommended for various inflammatory and catarrhal conditions of mucous membranes; as an injection in gonorrhea, leucorrhea, and other catarrhal affections of the genitourinary tract; also in inflammatory conditions of the nasal and air passages. Internally is employed in fermentative dyspepsia, malarial troubles, biliousness, gastric catarrh, gastritis, etc. May also be used in combinations, according to the discretion of the prescribing physician." (Stearns & Co.)

The examination demonstrates that these unofficial preparations, while listed and sold more or less directly under the titles of fluidextracts, do not comply with the standard adopted for the official fluidextract of golden seal; the results may serve as a suggestion to physicians to make some attempt to learn the composition of unofficial remedies. The analyses emphasize the fact that, with hydrastis as with many other drugs, as soon as the physician leaves the official preparations he is dealing with unknown quantities.

RESEARCH LABORATORIES OF MANUFACTURING PHARMACISTS.

Valuable Work in Standardizing and Investigating Drugs.

The advance of pharmacy and therapeutics has been due in a considerable measure to the enterprise of certain manufacturing pharmacists who have conducted research laboratories from which genuine scientific discoveries have emanated. In this work the American pharmacist has not been behind his continental brother. It is gratifying to observe that this effort to assist scientific progress still continues. Two contributions in the *American Journal of Pharmacy* (January and March, 1908), are striking examples of the practical value of such work. The first emanates from the biologic laboratories of Parke, Davis & Co., and consists of a study of *Cannabis sativa*, grown in the United States and Mexico (*Cannabis Americana*), as compared with *Cannabis sativa* of the East Indies (*Cannabis Indica*). It is generally believed that American hemp is practically worthless for therapeutic purposes and that one must employ the true cannabis from India in order to obtain physiologic activity. In order to test the value of American grown hemp, Drs. E. M. Houghton and H. C. Hamilton compared the two drugs by administering the extract in a standard dose to especially selected dogs. They conclude that *Cannabis sativa*, when grown in various localities of the United States and Mexico is fully as active as the best imported Indian-grown *Cannabis sativa*.

The second contribution is an attempt to solve the problem of the standardization of the preparations of digitalis. For this purpose two different methods have long had their special advocates, some championing the chemical method, and others concluding that, because the essential active principle of digitalis is not fully known, nothing could be expected from the chemical method and that the method of physiologic testing must be resorted to. Dr. E. D. Reed and C. E. Vanderkleed, working in the research laboratory of the H. K. Mulford Company, have attempted to compare and combine the two methods. The question of physiologic standardization of digitalis, which is described by Dr. Reed, has resolved itself into the specific action of the drug on the heart of the frog. Frogs were treated with digitalis in varying quantities, and that amount of digitalis which would kill a frog of a definite weight, leaving its heart in systole, was considered to be an index of the physiologic activity of the preparation. This method, however, is considered by Dr. Reed to be unsafe since it is, after all, only a toxic effect and amounts to nothing more than determining the lethal dose. Reed uses, instead, the lethal dose for a guinea-pig and adopts, as a standard, the amount which will kill a guinea-pig of 240 grams weight in from 1½ to 2 hours, and he uses this amount for comparison with the chemical method of testing based on the amount of digitoxin in the drugs.

Vanderkleed, in discussing the objections to the chemical method of standardization admits that it is not proved that digitoxin represents the therapeutic activity of digitalis in its entirety. He maintains, however, that it may properly be taken as a guide for standardization if it can be shown that the physiologic activity runs parallel to the amount of digitoxin so that it may afford a reliable means of approximate estimation. He cites other cases in which it has been agreed to use the amount of an ingredient which is not the sole active principle. Thus, nux vomica is estimated by the amount of strychnin which it contains, although strychnin forms only one of the constituents to which nux vomica owes its activity. Acting on this principle he endeavored to ascertain the relation between the amount of digitoxin and the activity of the digitalis as determined by physiologic tests. The results showed that the relative activity could be estimated very closely from the amount of digitoxin, and it is only necessary to fix a standard of digitoxin corresponding to the physiologic unit in order to assay the drug satisfactorily by chemical means.

Vanderkleed made some interesting experiments to determine the rate of deterioration of liquid preparations of digitalis. Watery solutions of digitoxin are found to lose their activity rapidly so that the only stable preparations are hydroalcoholic or those in which a part of the alcohol has been replaced by glycerin. Even the fluid extract deteriorates, according to his experiments, under ordinary trade conditions, at the rate of about 11 per cent. a year.

The standardization of drugs which are to be depended on for definite physiologic effects is an essential for accurate clinical observation and effective therapeutics and should be demanded where possible. Every effort to extend our knowledge in this respect deserves the hearty support of the medical profession. Work of this sort that tends to make more effective the remedies we already have is much more to the credit of the manufacturing pharmacist, and will be more appreciated by the medical profession than the multiplication of formulas of the "shot-gun" order—already too numerous. It is to be regretted that even the firms which we have just had occasion to mention with praise have not always been willing to forego the temporary profit accruing from proprietary mixtures which have little to recommend them. It is to be hoped that the approval of their scientific efforts will lead them to give these efforts the greater emphasis and to leave the marketing of nostrums to the pseudo pharmacal and chemical concerns which have too long humbugged our profession and disgraced American medicine and pharmacy.

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[3] Drugs and Medicines of North America, vol. i, p. 84.

[4] U. S. Department of Agriculture, Bull. 51, part 6, p. 14.

[5] See Pharmaceutical Review, May, 1908, p. 132.

Analysis of Nostrums in North Dakota.

It is gratifying to note that the officials of some of the state health boards have realized the true scope and responsibility of the work placed in their hands and appreciate the great injury to public health from the fraudulent manner in which many medicines are advertised and sold. In the eighteenth annual report of the North Dakota Agricultural Experiment Station, the food commissioner, E. F. Ladd, and the pharmacist L. A. Brown, call attention to the evils arising in connection with the "patent medicine" business. Mr. Ladd says: "The more I have had occasion to look into the subject of 'patent medicines' and their use, the more fully I become convinced of the great fraud that is being practiced. Among the 'patent medicines' there are some possessed of merit, but the greater proportion of those now sold are nothing more than worthless products, often dope.'" He also quotes a drug journal to show the attitude of others with regard to some of these products "which claim to be ethical and, therefore, are supposed to be recognized and used under the direction of physicians but which in reality, seldom are recommended by physicians of standing."

Mr. Ladd makes the further comment: "By reference to the report of Professor Brown given further on one will see something of the character of 'patent medicines' which have been sold in this state and have thus far been under examination. Their worthlessness in many cases is clearly indicated. They are often so prepared as to deceive and mislead and make victims of those who use the products. That there is necessity for a more stringent law than any which we now have is clearly indicated, and I can fully endorse the report of Mr. O. C. Beale who was commissioned by the Australian government to make an investigation of the nostrums sold as 'patent' and proprietary medicines in all English speaking countries."

Professor Brown's report shows a large amount of good work accomplished during the year. A long list of proprietaries containing cocain is published. Vin Mariani is in this list and receives an exposure occupying over two pages and leading to the conclusion that whatever the claims made by the manufacturers "according to our analysis of samples of Vin Mariani it *does* contain cocain, and regardless of whether its presence is due to coca leaves or not, it constitutes it a cocain preparation." Evidently hair spliting distinctions are not very popular at the North Dakota Agricultural Experiment Station.

The results of the analysis of some "dyspepsia remedies" are very interesting. The report states: "Only a few preparations of this nature have been analyzed in this laboratory owing to a limited amount of time and help trained in drug analysis, but enough has been done here and elsewhere to arouse in our minds the suspicion that there are very few preparations put up as aids to digestion that have any efficacy whatever." Among the preparations analyzed were Vigmi and Malt Papaya, Borscherdt's. The first showed no digestive power and the second a slight action on starch, but none on albumin. It is suggested that in the combination of diastase and papayotin in the second preparation the two ferments mutually destroy each other as has been shown to be the case with mixtures which contain both pepsin and pancreatin in solution.

It is to be hoped that we may have more investigations of similar nature by the responsible boards which are equipped to do work in this field. One advantage of work done under public authority not connected with the medical profession is that the suspicion of medical bias is removed and the advice given in such reports as these ought to be of immense value to the people to whom they appeal and who are liable to be misled by the specious advertisements of nostrums which are both an injury to health and a fraud on the purse.

Correspondence

Priority in Regard to Patellar Synovial Fringes.

NEW YORK, June 18, 1908.

To the Editor:—The rapid increase of years renders it hardly probable that I can accomplish much further work of novelty or interest in surgery. Hence, I may be pardoned for calling attention to what I have done in the past in connection with a lesion presented in an able form by Dr. Abbott of Portland in THE JOURNAL, May 23, p. 1675. He ascribes the recognition and the requisite surgical treatment of an unusual form of joint locking due to a duplication of the synovial membrane on the under surface of the patella to Dr. Goldthwait, who operated for this condition in 1902. I venture to state that in the *Medical Record* of July 16, 1892, it will be found that I called attention to this lesion and, by a similar procedure to that used by Dr. Abbott, removed the projecting fold in two instances, though I did not then, nor do I now claim to be the originator of the operation or the discoverer of the disease. It was only recognized as a unique affection.

R. F. WEIR.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Sentences for Charlatans in the German Courts.

The last number of the *Gesundheitslehrer,* the official organ of the Antiquackery Society, mentions nearly 20 suits brought against quacks, the penalty ranging from fines of $5 to $75 and imprisonment for from two weeks to three years. Among them is L. Bauer, of "antidiabeticum" fame, this being the eighth suit that has been brought against him. One Witte was given a year's imprisonment for treating a woman with cancer and promising to cure her. It says of another, a shoemaker, that he grew tired of working on shoes and determined to take charge of the health of his fellowmen, "and of course he found people at once to trust their health in his hands." He treated a lad with a tuberculous suppurating process in the pelvis and promised his father a cure in six weeks. He applied a plaster cast, never cleaned, but charged $2.50 for each inspection. After the boy's death suit was brought and he was condemned to two weeks of prison, the fourth penalty for the same practices.

Systematic Organization in Kansas City.

The Jackson County (Missouri) Medical Society has taken up systematic methods of organization, following the plan of the Chicago, Philadelphia and St. Louis medical societies, and dividing the county into districts. A representative from each district has been appointed on the general organization committee, thus forming an organization committee of twenty-seven, one for each ward in Kansas City and Independence, and one for each township in the surrounding country. The secretary, Dr. E. L. Stewart, has begun the compilation of a card index of all the physicians of the county, and is endeavoring to obtain personal data regarding all members of the profession in the county. Without doubt, the work in Jackson County will be as productive of good results as that in the other large cities which have adopted this method.

Local Regulation of Nostrums.

Following the movement on the part of the *national* and state governments for the regulation of the sale of dangerous and fraudulent medical preparations, a number of cities have passed similar local ordinances. Such an ordinance was adopted recently by the council of Huntington, Ind. This example is being followed by a number of other cities in the state. Logansport has just passed an ordinance providing that any itinerant physician or other traveling person desir ing to sell any medicine, drug or remedy for use in curing or healing diseases must obtain a license and pay to the city treasurer $50 for each day he intends to remain in the city. Such an ordinance is in every way to be commended, and it is to be hoped that other cities will take the same action. It might be advisable to consider an additional clause prohibiting the sale to the public of any medicinal preparation which had not been examined by the State Board of Health and pronounced safe for public use.

Medical Defense in Wisconsin.

The State Medical Society of Wisconsin, at its annual meeting in 1907, adopted a plan of medical defense which has now been in operation for nearly a year. The *Wisconsin Medical Journal*, May, 1908, contains extracts from reports received from many of the counties, showing that in almost every instance the system has met with general favor and that the members are much pleased with the plan. In only a single county was there any definite opposition, and in this county the year has shown a substantial gain in membership. So far as reported, there has been no loss in membership in any county on account of the adoption of this feature, and this experience is in accordance with that of other state associations which have adopted it.

The best thing about this plan of mutual protection is that, without exception, it has resulted in eliminating those cases which are without justification and which had been incited by lawyers for mercenary reasons. Cooperative defense has made systematic exploitation of the medical profession not only unprofitable, but inadvisable and impossible. The few cases which have some possible justification are easily adjusted and settled. The principle of cooperative medical defense as a function of state society activity seems now to be well established, and it is to be hoped that many other state associations will take up this matter and carefully consider it.

Local Physicians' Club.

For over ten years the physicians of New Kensington, Pa., have maintained a local club, composed of the physicians of the city, who are members of the Westmoreland County Medical Society. The club at present includes fourteen out of the fifteen physicians of New Kensington. Weekly meetings are held, which are always well attended. The club has recently taken up the postgraduate course of study with gratifying results. It has its own club room, and hopes in a short time to have the nucleus of a common medical library. The best of feeling and the heartiest cooperation prevails among the local physicians, due principally to their constant association and frequent meetings together.

This organization is an illustration of the necessity in some of the counties of a smaller organization inside the county society for purposes of mutual benefit. In many of the larger and more populous counties, it is practically impossible for all the physicians to assemble oftener than once a month, or, on account of the geographical conditions or railroad arrangements, it is exceedingly difficult for all the physicians of the county to meet in one place. These difficulties have been solved in some counties by the organization of branch or district societies, subordinate to the county society; in others, by the organization of local clubs, which are auxiliary to and limited to members of the county society.

While any tendency toward disintegration or drifting away from the county plan of organization should be carefully avoided, yet such local organizations when properly conducted are an additional incentive to membership in the county society, and can often be of benefit to its members in a way not possible to the larger organization.

The Chicago Medical Society and Its Active Work.

The *Bulletin of the Chicago Medical Society*, June 20, contains the report of the annual meeting of that body held on June 17, which shows in a striking manner the range of work covered by this society, as well as the possibilities of medical organization in the large cities.

Seven years ago the Chicago Medical Society was a single body of about 900 nominal members, confining its work almost entirely to the reading and discussion of scientific papers. To-day it is a highly specialized organization, having 2,259 actual members of the main society, twelve affiliated special societies and fourteen district branches. Instead of one meeting a week, there is now an average of 32 medical society meetings every month in Cook County. Not only has the organization gained in membership, but its practical usefulness has largely increased. A council, composed of delegates from the different component parts of the organization, meets each month and transacts all the business for the society. At the annual meeting, reports were made by the secretary of each of the fourteen branches and of the twelve affiliated societies, as well as by the following committees: Membership, medicolegal, ethical relations, organization, propaganda, patent nostrums, business bureau, contract practice, abuse of medical charities, affiliated societies, educational campaign and constitution and by-laws.

The medicolegal committee reported that in the three years of its existence it had not lost a single case. The report of the organization committee showed that 454 applications had been taken during the year, of which 303 had been accepted up to the date of report, and that in the last six years there had been added to the society 1,460 new members. The committee on propaganda reported that 22 public lectures had been given in the Public Library Building during the year, with an average attendance of 140 and a maximum attendance of 350, and that more interest had been exhibited by the public in these lectures during the past year than at any previous time. The committee on business bureau reported that this institution had been in existence for five months and had collected a total of $6,298 for members of the society, earning in commissions for the society $1.279, and that 391 members were now sending their bills to the bureau for collection. The committee on abuse of medical charities reported that during the past year an organization of the free dispensaries of the city had been effected, comprising 27 of these institutions, and that plans were being developed to prevent the exploitation of the medical profession through the misuse of these establishments for the relief of the worthy poor. The educational campaign committee reported that seven meetings had been held during the year between local physicians and druggists for the solution of the proprietary medicine and nostrum situation. The report of the secretary showed the largest annual increase in the history of the society. Thirty-one meetings of the main society were held during the year with an average attendance of 185.

The Chicago Medical Society was one of the first of the large city organizations to realize the trend of the reorganization movement and to appreciate its possibilities. An enormous amount of hard work has been done by its officers and members in the past six years, with the result that it stands to-day as the largest and best organized local medical society in the world.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month.

THIRD WEEKLY MEETING.

Cholelithiasis.

Etiology.

Classification of gallstones, chief constituents. Origin of cholesterin and bilirubin—calcium, changes necessary to their production. Effects of chemical and bacterial irritants, organisms usually found in bile, in gallstones. Effect of stasis of bile. Entrance of micro-organisms (a) by common duct, (b) by blood current, from portal vein. Age and sex. Pregnancy, sedentary life, typhoid fever. Incidence.

Symptoms.

Obstruction of Common Duct: Symptoms of cholangitis. Mechanical effects. Jaundice; intensity, duration. Itching.

Pain Temperature chills, "Charcot's intermittent fever Gastric disturbances Physical examination Symptoms of suppurative or ulcerative cholangitis Association of pancreatitis

Obstruction of Cystic Duct Pain, jaundice, tenderness, gastric and intestinal disturbances, presence of tumor. Sequelæ empyema, atrophy or calcification of gall bladder

Remote Effects (a) Stricture of the duct, (b) intestinal obstruction, (c) fistulas

Amyloid Disease of the Liver.

Etiology Microbic origin of amyloid degeneration, its occurrence in the body Sequel of chronic suppurations, necrosis of bones, tuberculosis, pyelitis, syphilis, blood dyscrasias Tests for amyloid material

Symptoms· General condition, gastrointestinal symptoms mental derangements pain, urine Physical examination

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Miscellany

Acidosis in Pregnancy—J B Leathes (*Proceedings of the Royal Society of Medicine*, March 1908), refers to 'three groups of papers in which, in Germany and America attention has been called to the significance of the high proportion of the excreted nitrogen that may take the form of ammonia salts in the urine during pregnancy" These groups are represented, respectively, by the papers of Zweifel (*Arch f Gynak*, 1904, lxxii, 1· 1906, lxxvi, 536), Williams (*Johns Hopkins Hosp Bull*, 1906 xvii, 71), and Ewing and Wolf (*Am Jour Obst*, 1907, lv) Zweifel's consideration of eighteen successive cases of eclampsia lead him to the conclusion that 'the acid is produced in the child and causes poisoning of the mother, and is not produced in the mother as a result, for instance of the fits" Williams regards three remarkable cases (abstracted in this article) of severe vomiting in pregnancy as 'cases of toxemic vomiting allied to yellow atrophy, and this latter as a fulminating variety of the same disorder Other cases of severe vomiting in pregnancy, in which the ammonia coefficient is normal may be recognized by that sign as of a comparatively innocent type—cases of neurotic or it may be, reflex vomiting" The cases of Ewing and Wolf, which Leathes regards as affording the fullest and most valuable set of analyses of the urine in pregnancy," are divided into six groups These are analyzed and from a consideration of them Leathes says "The two types of abnormality are fairly distinct One is characterized by severe vomiting in the early months with high ammonia coefficients and generally large amounts of undetermined nitrogenous substances, but no renal affection The cases described by Williams emphasize the gravity of this condition, described as toxemic vomiting and with their very high ammonia coefficients give further significance to this abnormality of the urine The other is an affection of the later months, in which the vomiting is secondary to renal complications, a pre eclamptic condition in which the urine does not commonly have a particularly high ammonia coefficient, though the undetermined nitrogen appears to be very abundant" Leathes then raises the question "How far are these abnormalities in the urine diagnostic indications of the gravity of the disorder? Do they lie at the root of the malady, as early fundamental symptoms of a disturbance of metabolism of which, it may be, yellow atrophy or conditions of that order of gravity on the one hand and eclampsia on the other, may be merely the final climax?" He discusses the subject and concludes that so far as the ammonia figures in the disorders of pregnancy are concerned, before it can be safely maintained that these high figures are a sign in themselves of a toxemia that is likely to prove fatal unless the most active measures be taken, it is necessary to prove that they are not sufficiently accounted for by some of the attendant circumstances of the patient's condition the low nitrogen content of the absorbed food, the imperfect nutrition due to the incessant vomiting, the loss of alkali in the vomit, aggravated possibly by the requirements of the fetus The facts that the high figures may occur without any symptom of general disturbance (Ewing and Wolf's cases, 3 to 6), and that profound disturbance may coexist with normal figures (*ibid*, Cases 10 and 12, the latter fatal), are difficult to reconcile with such a view In some of the recorded cases acetone is mentioned as having been detected, which is no more than could be expected, and, therefore, the acids associated with acetone were probably present in sufficient quantity to account for some of the excess of ammonia The valuable data contained in Ewing and Wolf's paper, and the stray observations outside it, point to the necessity of decisive experimental work before their pathologic significance can be positively defined The other abnormality of the urine, the large output of unknown substances containing nitrogen, is more striking and more suggestive, for this does not appear among the results of mere starvation, as the figures given by Cathcart (*Jour. Physiol*, London, 1907, xxxv, 500) show The only substances that have been detected giving rise to variations in the nitrogen in this category are amido acids, and though, of course, this does not warrant a prejudice as to the meaning of the figures in disorders of pregnancy, if the presence of amido acids in abnormal amounts were proved, it is possible that some of the abnormal ammonia figures might be explained in that way, and that the tendency to associate the abnormality of the urine with disturbance of hepatic functions, and to regard it with suspicion as a sign of danger from that quarter, would be strengthened But the author concludes that further definite work on this subject is required before any attempts at interpretation of the phenomena are permissible

Treatment of Tuberculous Glandular Disease—A Robin states that there is only one treatment for tuberculous adenitis, namely, medical treatment based on the following rules 1 Treatment should be both local and general 2 Local treatment should include local treatment of all the cavities with which the diseased glands are connected 3 The glandular lesions may heal spontaneously under climatic or medical aid 4 When tuberculous adenitis does not heal, it requires further measures, but not surgical ones 5 Surgical intervention does not protect against recurrence, it exposes to generalization, and it leaves disfigurement 6 The treatment should leave no disfiguring traces 7. General treatment includes hygiene as for pulmonary tuberculosis, nutritious food, little meat but plenty of vegetable albumin, especially gluten, and articles like gelatin which oxidize easily and are thus consumed in the place of the tissues, tonics, and hydromineral treatment He combats the "demineralization" with a powder each day containing.

℞	gm		
Magnesii carbonatis	10		gr iss
Calcii carbonatis	25		gr iv
Tribasic calcii phosphatis	25	or	gr iv
Calcii fluoridi	01		gr 1/6
Sacchari	1		gr xv

He considers the seashore dangerous for children requiring or having passed through an operation, or when there is a prospect of acute exacerbation or when there is a tuberculous lesion in the lungs, pleura or abdomen or vague pains in the legs suggesting impending meningitis, or neuralgia He applies locally to the glands compresses soaked in a solution made as follows

℞		gm		
Calcii chloridi		300		℥x
Sodii chloridi				
Magnesii chloridi			or	
Potassii chloridi	āā	15		℥ss
Water		1,000		℥xxxii

He also advises a disinfectant spray to combat any possible tracheobronchial adenitis, with. further, lavage of the nose, throat and ears He regards the care of the mouth as very important, and he has the teeth brushed three times a day with a disinfecting powder containing calcium carbonate, soap and camphor, followed by a beta napthol gargle His lecture on the subject was published in the *Annales de Méd et Chir. infant*, March 15, 1908

Prevention of Plague—The present epidemic of plague is remarkable for its geographic extent although it has not reached alarming proportions in any country except India. In 1894 there was but one country, China, affected; in 1907, there were 51 in which it had gained a foothold. It appeared in India in 1896 and in 1907 attacked 1,400,000 people in that country with a mortality of 1,200,000. *Public Health Reports* (U. S. P. H. & M. H. S., May 29, 1908) details the measures to be taken for preventing the disease. The subject is divided into (a) measures to prevent the introduction of the plague into a community, (b) the proper treatment of a community into which the disease has found an entrance. Precautions to prevent the entrance of the disease are directed (1) Against infected persons, (2) against rats. Quarantine measures should be especially directed to the discovery and detention of ambulant cases and cases of pneumonic plague. The thermometer should be thoroughly used to detect infectious disease among the crew and passengers of incoming vessels. C. S. Braddock recommends the use of coal oil about the shoes, stockings and leggings to prevent the access of infected fleas. A similar application should be made to floors and furniture after disinfection. Warning should be given against petting stray dogs which may harbor infected fleas. The period of incubation is seven days and the period of quarantine should be sufficient to complete a period of seven days from the last time of exposure to infection. Precautions should be instituted to prevent rats from coming ashore, infected vessels being unloaded by lighters at a distance (one-fourth to one-third of a mile) from which it will be impossible for rats to swim to the shore. The precautions against rats should be extended to fleas also. Fumigation of incoming vessels should be complete and provision should be made for the periodic fumigation of vessels trading with infected ports.

When plague has made its appearance in a locality an active campaign against rats should be instituted, these rodents being shut off from houses and food as completely as possible, all garbage being quickly collected and burned, and the rats poisoned or trapped. Arsenic, phosphorus paste and carbonate of baryta are recommended as poisons. The kind of poison and the mode of displaying it should be frequently changed. Patients with plague should be removed to a rat-proof hospital and suspects should be segregated long enough to cover the incubation period.

Dead rats shoud be carefully examined and all precautions taken to prevent rats going from an infected city to vessels lying in the harbor. The ropes connecting the vessel with the wharf should be provided with rat funnels and for a distance of two feet somewhere between the wharf and the opening of the funnels the line should be copiously tarred. Rags should be sterilized or destroyed.

Serious Epidemic of Sore Throat Traced to Milk.—A peculiar streptococcus was found by Ustvedt in the throat in 146 cases and by others also in large numbers, similar to the bacteriologic findings in the mastitis of a cow in the dairy from which the families involved purchased their milk. The symptoms included high fever and enlargement of the glands, tonsillitis with or without an easily detached false membrane, although the aspect of the throat was generally scarlatinal. Gastrointestinal disturbances were rare. All the sick had used unboiled milk from this dairy near Christiania. Only one-third of the patients were children. About 208 sickened between March 3 and 7. In most cases the affection subsided in a week, but in the others complications were numerous, including otitis media, ulceration in the tonsils and vicinity, glossitis with the tongue so swollen that it protruded from the mouth, erysipelas, esophagitis, albuminuria, acute rheumatism or pericarditis; in one case hemorrhagic nephritis, in another thrombosis; one woman had febrile gastroenteritis for several days two days after drinking four glasses of the milk. In one group of 53 patients the remissions and exacerbations of the fever and the glandular disturbances and local complications kept up the trouble in 47 for one or two weeks, for three weeks in 3 and from four to nine weeks in the others. The 6 fatal cases were in infants or the aged except one woman of 47, apparently convalescing three weeks after the first symptoms; pain suddenly developed in the muscles and the temperature rose constantly with death the fifth day from edema of the lungs. The local medical society had a symposium on the "milk epidemic" May 13, reported in the *Norsk Magazin for Lægevidenskaben*, June. The epidemic was remarkable for its virulence in man while in the cow it caused merely a mild local affection. The total number of cases in regard to which the authorities were notified was 548, the notices being sent in by 29 physicians.

Health-Education League Pamphlets.—We have received a package of the booklets of the Health Education series published by the Health Education League of Boston. These little pamphlets present the first necessary element for all efficient food whether of mind or body: they are attractive. While all attractive things may not be desirable and many even may be prejudicial, there can be no question that attractiveness of form vastly increases the probability of further investigation into the underlying nature. Here, too, the popular reader is not likely to be disappointed; for the books present, for the most part, good mental pabulum well prepared. The scope of the brochures may be best gathered from an enumeration of the titles of those already published: (1) Hints for Health in Hot Weather, (2) Milk; (3) Colds" and Their Prevention, (4) Meat and Drink, (5) Healthful Homes, (6) The Successful Woman, (7) The Boy and the Cigarette; (8) The Care of Little Children, (9) The Plague of Mosquitoes and Flies; (10) Tonics and Stimulants; (11) Emergencies; (12) Microbes Good and Bad; (13) The Care of Babies, (14) The Efficient Worker, (15) Sexual Hygiene. The prices vary from 2 to 8 cents each copy, or from $1.50 to $5 a hundred. The last one issued, that on Sexual Hygiene, is particularly timely. It carefully avoids saying too much but what it does say is enough to suggest in what direction those who may require further information may best obtain it. The object of the league is to spread the knowledge of the laws of health among the people through the circulation of sound popular health literature.

Insurance Against Industrial Accidents.—Insurance of workmen against industrial accidents was introduced by law into Holland five years ago. At first the employers and physicians found it hard to reconcile the interests of all concerned, but as time has passed all has been amicably arranged, and the annual reports of the officials in charge of the system now comment in terms of high appreciation on the practical cooperation of the physicians. The first year or so they complained of excessive solicitude on the part of physicians, who were said to exaggerate the effects of the accidents and keep the injured workmen too long on the sick list. The profession took up the matter and discovered that two medical men had given rise to these just complaints, and the names of these two were stricken from the list of physicians eligible for the work. An Amsterdam letter in the *Wiener klinische Rundschau*, May 17, states that physicians have still to learn much in the matter of industrial accidents and their treatment. Functional results accepted as satisfactory a few years ago are no longer so regarded, especially in the matter of fractures. Impaired earning capacity from defective functioning of the limb entails extra expense and the insurance company is correspondingly dissatisfied when functional capacity is not restored. A recent meeting of the Netherlands Surgical Association was devoted to this question, the consensus of opinion being that the aim in treatment is to restore functional capacity, regardless of the original anatomic form of the limb. The best results in the majority of cases are secured by carefully individualized non-operative methods. Operative measures are necessary only in rare instances.

Sanitary Work in Louisiana.—The biennial report of the Special Medical Inspector of the Louisiana State Board of Health (1908) contains much interesting material. The work of the department is divided into the following five sections: (A) Educational, hygienic institute work; (B) Convention work; (C) Office work; (D) Legislative work; (E) Field work. The educational work will be commented on editorially in THE JOURNAL in the very near future. Of the rest, the field work is the most important, and covers an investigation of yellow fever reports; of variola and typhoid outbreaks; vital statistics; the spread of tuberculosis, particularly among negroes; the extinguishing of an outbreak of yellow fever in New Iberia in 1906, etc. Dengue, bubonic plague, diphtheria, influenza, epidemic cerebrospinal meningitis, dysentery, scarlet fever, and other diseases receive attention. The purity of the milk supply and the danger of house flies as disseminators of disease are dwelt on. Undoubtedly, however, the most noteworthy feature of the report is the Louisiana System of Hygienic Education, on which we have already commented editorially.

Meat in the Diet and Intestinal Affections.—P. Morsaline of Buenos Aires contributes an extensive article on mucomembranous enterocolitis to the *Semana Medica*, April 23. He protests against the assumption that meat is an important factor in the development of intestinal affections. Argentina is a cattle country and there is an unusual consumption of meat, and yet intestinal disorders are rare. In all his experience he has encountered only a very few cases of appendicitis or enteritis and none in the rural districts, either in his own or his colleagues' experience, and yet the cowboys live almost exclusively on meat. He admits that arthritic individuals are predisposed to such affections as they are subject to chronic autointoxication, and excess of nitrogenous food might be injurious, but individuals of this class mostly inhabit the cities. He adds that the Russian Jew immigrants are pre-eminently neuro-arthritic, and 60 per cent. of the women have colitis. Under other conditions all his observation in a meat-eating country discredits the idea that meat plays a preponderant part in the genesis of intestinal infections.

Neurasthenia from Insufficiency of the Salivary Glands.—Baccarani's experience has convinced him that the salivary glands have an important part in the elimination of toxic products generated in the body, and that their internal secretion is indispensable for the normal functioning of the economy. Absence of this internal secretion is liable to induce a syndrome in which neurasthenia predominates, as in a case he describes in the *Riforma Medica* for July 6. In extreme cases the metabolism may become gravely affected. Zagari has reported a fatal case of this kind, already mentioned in these columns.

Book Notices

AN ABRIDGEMENT OF PRACTICAL MEDICINE AND ALLIED SCIENCES. By J. Candor McLaughlin, M.D. Flexible Leather. Pp. 524. Published by the Author, Kansas City, Mo.

That it is a marvel of condensation to reduce the medical science of the present day with all its allied sciences to the compass of a vest-pocket manual goes without saying. That some important subjects should get squeezed out in the process of compression was to be expected. It is, indeed, surprising that we find so few positive misstatements. Perhaps there is a use for such books, but it is doubtful if they do not do more harm than good. The use of such a manual leads to reliance on its statements and this eventually to the conclusion that the information contained in its pages is sufficient, wihch would indicate a lower estimate of the scientific standing of practical medicine than any possessed by the laity of to-day. That the perusal of such a book can be of service in preparing for state board examinations as is confidently asserted by the author is a sad commentary on the unpractical character of such examinations.

NEUROGRAPHS. A Series of Neurologic Studies, Cases, and Notes. Edited by William Browning, Ph.B., M.D. Vol. i, No. 2. Paper. Pp. 164. Brooklyn: A. T. Huntington, 1908.

That the opportunity of the county practitioner to contribute to the progress of medical science should not be neglected is shown by the history of the development of our knowledge of Huntington's chorea. Several previous observers had noticed these cases, but the attention of the scientific world was not attracted until Dr. Huntington, a recent graduate, and then a country practitioner, reported the results of his father's and his own observations. His description was so accurate and comprehensive that it has given his name to the disease. Neurographs devotes its second number to sketches of Huntington, and also Waters, Gorman, and Lyon who published observations before him and to a consideration of the present state of our knowledge of the disease as shown in contributions by various authors. It has been possible by the historical method to trace the cases described by the early writers and to determine that they came from well defined local groups, while it has been shown that in some cases the existence of the disease can be traced to the earliest period of the colonization of New England. The disease, however, is known to exist in all European countries and is not limited to a single race, as it has been observed in the negro.

ON THE WITNESS STAND. By Hugo Münsterberg, Professor of Psychology, Harvard University. Cloth. Pp. 269. Price, $1.50. New York: The McClure Co., 1908.

Witnesses in courts of law are examined and investigated as to veracity and character, but little as to competency in observation. Münsterberg illustrates the error in this oversight by the results of experiments: Those who saw a pre-arranged quarrel write out accounts of it, and differ radically on essential points; students are asked to state the length of time between two sounds and variously estimate it from half a second to sixty seconds; the actual time being ten seconds, etc. The actions of the mind are being studied more and psychology is destined to occupy a more important position. Münsterberg takes up hypnotism, suggestion, untrue confessions, and the association test for crime, recently described in THE JOURNAL by Dr. Scripture. The book is not an elaborate treatise—only some fragmentary popular sketches which call attention to the importance from legal and humanitarian points of view of understanding how the mind operates under various conditions.

HYDROTHERAPY. By Simon Baruch, M.D., Professor of Hydrotherapy in Columbia University (College of Physicians and Surgeons), New York. Third Edition, Revised and Enlarged. Pp. 544, with illustrations. Cloth. Price, $4.00. New York: William Wood & Co., 1908.

The necessity for a special work on hydrotherapy still appears to be urgent in the view of the author of this treatise. This is one of the best books on the subject of hydrotherapy and this third edition brings up to date the quarter century's labor of the author in this field. In this edition the chapters on phthisis and insanity have been enlarged by the addition of clinical and other material. Clinical histories have been retained as furnishing not only evidence of the patient's progress under hydriatic measures, but as setting forth, clearly and forcibly, the indications for a change in methods to meet changed conditions.

THE DEVELOPMENT AMERICA, 1800 TO
1870. By Alvin A. ofessor of Clinical
Ophthalmology in the York. Cloth. Pp.
197, with illustration : W. T. Keener &
Co., 1908.

This review of the early period of American ophthalmology is an amplification of an address delivered by the author before the Section on Ophthalmology of the American Medical Association at Atlantic City, June 4, 1907. The factors which determined the development are described and brief biographic accounts of the principal actors in the drama are given. Some account is also given of the institutions that have served to further the development of ophthalmology as a separate department of medicine. The book is illustrated by the portraits of a large number of early American surgeons and forms a most worthy contribution to the history of medicine in this country.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Cloth. Pp. 684. Price, $4.00. Philadelphia: W. B. Saunders Co., 1908.

The author has taken the questions of state board examinations, many of which he finds have been repeatedly asked and has given brief answers. An effort has been made to maintain a continuity of subject matter, and a carefully arranged index makes it possible to readily find any subject. In brief, the book is a quiz-compend covering the subjects usually contained in a state board examination. Although at their best such compends are unsatisfactory, some will find this book useful. It will be of service in guiding the student to a knowledge of what points are apt to be included in an examination and hence it will direct him in his preparation.

General Surgery. Vol. II, of the Practical Medicine Series. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in Rush Medical College. Pp. 614, with illustrations. Cloth. Price, $2.00. Series 1908. Chicago: The Year Book Publishers.

The author's plan is to select representative articles on the various subjects since the literature is so abundant that it is impracticable to review or to abstract it all and keep within the limits of this handbook. The volume is well arranged and presents a full account of the advances of the year in the field of surgery. Much attention is given to the details of Bier's methods of inducing hyperemia, which are daily coming into greater prominence. The book is very fully illustrated, two full-page plates being in colors. The book forms Volume II of the annual series of year-books issued by the Year Book Publishers.

The Spectroscope. By T. Thorne Baker, F.C.S., F.R.P.S. Cloth. Pp. 130, with illustrations. Price, $1.75. New York: William Wood & Co., 1907.

This is chiefly a technical work dealing with the construction of the spectroscope and its use by the analytic chemist, especially in inorganic chemistry. It is designed to serve as an intermediate text-book between the ordinary works treating of physics and the more elaborate works on the spectroscope.

Elements of Human Physiology. By Ernest H. Starling, M.D. Lond., etc., Jodrell Professor of Physiology, University College, London. Eighth Edition. Cloth. Pp. 716. Price, $3.75 net. Chicago: W. T. Keener & Co., 1907.

This edition differs little from its predecessors. It presents briefly the essentials of physiology, and the general arrangement of the text is good. Nine pages are devoted to a general description of the ductless glands of which the author says: "Under this title have been grouped a number of organs the sole resemblance between which lies in the fact that we know little about them."

Practice of Medicine for Nurses. By George Howard Hoxie, A.M., M.D., Professor of Internal Medicine in the University of Kansas. With a Chapter on the Technic of Nursing, by Pearl L. Laptad, Principal of the Training School for Nurses of the University of Kansas. Cloth. Pp. 284. Price, $1.50. Philadelphia: W. B. Saunders Co., 1908.

The title of this book is misleading as the author states in the preface that he believes that the nurse should neither diagnose a case nor prescribe remedies, and that therefore little space has been given to differential diagnosis or to the dosage of drugs. On the whole, the book differs little from others on the same subject.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DECAPSULATION TREATMENT OF ECLAMPSIA.

Loma Linda, Cal., June 18, 1908.

To the Editor:—Where can I find an article on the decapsulation treatment of eclampsia which describes a case in which the kidney parenchyma puffed out on incision of the capsule? Please refer me also to other articles on congestion and edema of the kidney in eclampsia and uremia as revealed by actual observation at operation.

George K. Abbott.

Answer.—The article referred to probably is one by Dr. W. T. Wiemer, "Decapsulation of Kidneys in Treatment of Eclampsia," published in *Monatschr. f. Geburtsh. u. Gynäk.*, March, 1908, and abstracted in The Journal, April 25, 1908, p. 1387. This appears to be the only article which describes a congestion of kidneys in eclampsia such that the kidney tissue bulged out on incision. Sippel noticed in 1902 that the kidneys were in a condition of increased tension in the body of a woman who had succumbed to eclampsia with persisting anuria two days after delivery. Franck, however, states that in none of the ten cases in which the operation has been performed were there any reports of an increased tension or bulging of the kidney after splitting the capsule.

The following recent articles on this subject may be consulted:

Sippel, A.: Decapsulation of Kidney in Treatment of Severe Eclampsia, *Berl. klin. Wchnschr.*, xliii, No. 49, abstracted in The Journal A. M. A., Jan. 26, 1907, p. 373.

De Bovis, R.: Unilateral Decapsulation of Kidney in Treatment of Eclampsia, *Semaine méd.*, xxvii, No. 7; abstracted in The Journal A. M. A., April 13, 1907, p. 1304.

Franck, O.: Decapsulation of Kidney in Eclampsia, *München. med. Wchnschr.*, Dec. 10, 1907.

Sippel, A.: Decapsulation or Splitting of Kidney in Eclampsia, *Zentralbl. f. Gynäk.*, Dec. 21, 1907.

ESTIMATION OF PROTEIDS IN MILK.

Pittsburg, Pa., June 24, 1908.

To the Editor:—Please give a method of estimating proteids in milk sufficiently accurate for clinical purposes. Most methods given are so complicated that a well-equipped laboratory is necessary to carry them out.

F. S. Kellogg.

Answer.—All methods for quantitative estimation of proteids in milk require a certain amount of laboratory equipment and experience—and none is easy. If accurate scales and measuring instruments are at hand the following simple, though somewhat tedious, method gives results usually sufficiently accurate for clinical purposes, although it must be admitted that it is liable to some sources of error.

Evaporate to dryness on the water bath 5 c.c. of milk, after weighing in a weighed platinum dish. This operation will take about three hours. The total solids are obtained by weighing this residue. The fat is now removed by repeatedly extracting with gasoline or ether, allowing the solvent to stand for some time over the residue without stirring and then pouring off. The residue of proteids and milk sugar is now weighed and the sugar dissolved out by boiling 50 per cent. alcohol. This leaves a residue consisting of the proteids and a part of the salts. This residue is weighed and then incinerated and the weight of the ash subtracted from the combined weight. The difference gives the weight of the proteids.

The following simple method is recommended by Austin (Manual of Clinical Chemistry): Place 5 c.c. of milk in a graduate and dilute with water to 25 c.c.; mix well and fill a graduated sedimentation tube to 5 c.c. with this dilute milk and to 15 c.c. with Esbach's solution; the whole is then to be centrifuged for 3 minutes. The amount of precipitate reckoned as cubic centimeters, multiplied by 5 for dilution, and divided by 2 for fat, equals the percentage of the whole protein content. For instance, if there is 1.2 c.c., we have $1.2 \times 5 \div 2 = 3$ per cent. No claim is made to great accuracy for this process, for the percentage varies with the amount of fat: if the fat is normal, however, the results are said to correspond very closely with the calculated amount from the nitrogen found according to the Kjeldahl process. Esbach's reagent consists of 10 gm. of picric acid and 20 gm. of citric acid in a liter of water.

BACTERIOLOGY OF MEASLES.

Pittsburg, Pa., June 19, 1908.

To the Editor:—What work has been done in the bacteriology of measles?

H. P. Kohlberger.

Answer.—After much search, the bacteriology of measles, so far as the essential cause is concerned, is still uncertain. Several recent investigators have described hemophilic bacilli in the catarrhal secretions from the involved mucous membranes, and Giarrè and Carlini have found similar bacilli in the blood. In connection with their article (*Archiv. für Kinderheilkunde*, 1907, xlvi, 262), references will be found to earlier work. The bacillus described does not stain by Gram's method, and stains unevenly with carbolfuchsin. It corresponds closely to the bacilli described in connection with influenza and whooping-cough. That this is not the real cause of measles has been rendered probable by the investigations of Hektoen (Experimental Measles: *Jour. Infect. Diseases*, vol. ii, 1905, p. 238). Pneumococci and streptococci are found as etiologic factors in most of the complications of measles.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending June 27, 1908:

LaGarde, L. A., lieut.-col., M. C., assigned to duty as attending surgeon, Denver, in addition to duties as chief surgeon Department of Colorado.

Lewis, W. F., major, M. C., left Fort Sill, Okla., with troops for Leon Springs, Texas.

Grubbs, R. B., capt., M. C., left Fort McIntosh, Texas, for Leon Springs, Texas.

Harris, H. S. T., major, M. C., leave of absence further extended one month.

Reynolds, C. R., capt., M. C., ordered to duty as commanding officer of Co. C., H. C., Army General Hospital, Washington Barracks, D. C.

Grissinger, J. W., capt., M. C., leave of absence extended to July 24.

Morris, S. J., capt., M. C., granted leave of absence for two months, about August 15.

Wickline, W. A., capt., M. C., left Army General Hospital, San Francisco, Cal., with one-half of Company B., H. C., for duty at Leon Springs, Texas.

Heysinger, J. D., capt., M. C., ordered from Key West Barracks, Fla., to Chickamauga Park, Ga., for duty.

Campbell, G. F., Guittard, A. M., Koyle, F. T., and Langenderfer, F. V., contract surgeon, relieved from duty in Philippines Division and ordered to San Francisco, Cal., by first available transport.

Hull, A. R., contract surgeon, granted leave of absence for one month.

Whinnery, J. C., dental surgeon, left Fort Columbia, Wash., for duty at Vancouver Barracks, Wash.

Waddell, R. W., dental surgeon, relieved from duty in the Philippines Division, and ordered to Fort Slocum, N. Y., for duty.

Hammond, W. G., dental surgeon, left Fort Apache, Ariz., and arrived at Whipple Barracks, Ariz., for duty.

Voorhies, H. G., dental surgeon, ordered to Fort Crook, Nebr., for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending June 27, 1908:

Blackwell, E. M., P. A. surgeon, ordered to the Naval Academy.

Stalnaker, P. R., asst.-surgeon, ordered home and granted leave for two months.

McClurg, W. A., medical director, to be placed on the retired list, Sept. 1, 1908, on his own application, on completion of thirty years' service, in accordance with a provision of the naval appropriation act of May 13, 1908.

Taylor, J. L., asst.-surgeon, ordered to the Naval Hospital, New Fort Lyon, Colo.

Bogan, F. M., P. A. surgeon, detached from the Naval Recruiting Station, Minneapolis, Minn., and ordered to the *Wisconsin*.

Lando, M. E., asst.-surgeon, ordered to the Naval Recruiting Station, Minneapolis.

Trible, G. B., asst.-surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Relief*.

Clark, G. F., asst.-surgeon, ordered to the *Lancaster*.

Allen, D. G., asst.-surgeon, ordered to the Naval Medical School, Washington, D. C.

Smith, C. W., asst.-surgeon, ordered to the Naval Hospital, Portsmouth, N. H., and to additional duty at the Naval Prison at that yard.

Kerr, W. M., asst.-surgeon, ordered to the Naval Hospital, New York, N. Y.

Wheler, W. M., surgeon, detached from the Naval Station, Cavite, P. I., and ordered home.

Brown, H. L., P. A. surgeon, detached from the Naval Station, Cavite, P. I., and ordered to the *Cleveland*.

Randall, J. A., P. A. surgeon, detached from the *Denver* and ordered to the *Rainbow*

Rodman, S. S., P. A. surgeon, detached from the *Rainbow* and ordered home.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended June 24, 1908:

Williams, L. L., surgeon, granted leave of absence for 1 month, from July 15, 1908.

Gardner, C. H., P. A. surgeon, relieved from duty at San Francisco, and directed to proceed to Wilmington, N. C., assuming command of the service at that port.

Lavinder, C. H., P. A. surgeon, relieved from duty at Wilmington, N. C., and directed to proceed to Stapleton, N. Y., reporting to the medical officer in command, for duty and assignment to quarters.

White, M. J., P. A. surgeon, granted extension of leave of absence for 15 days, from July 1, 1908.

Berry, T. D., P. A. surgeon, placed on "waiting orders," from June 1, 1908.

Manning, H. M., asst.-surgeon, directed to report to the chairman of a board of examiners at the Bureau, Washington, D. C., July 6, 1908, for the purpose of determining his fitness for promotion to the grade of P. A. surgeon.

Manning, H. M., asst.-surgeon, granted leave of absence for 7 days.

Clark, E. S., acting asst.-surgeon, granted leave of absence for 10 days, from June 11, 1908.

Rush, J. O., acting asst.-surgeon, granted leave of absence for 14 days, from July 1, 1908.

Stoddard, C. S., acting asst.-surgeon, granted leave of absence for 30 days, from June 27, 1908.

BOARD CONVENED.

A board of medical officers was convened to meet at Seattle, Wash., for the purpose of examining alien immigrants. Detail for the board: P. A. Surgeon M. W. Glover, chairman; Asst.-Surgeon C. W. Chapin; Acting Asst.-Surgeon F. R. Underwood, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the two weeks ended June 26, 1908:

SMALLPOX—UNITED STATES.

Alabama: Huntsville and vicinity, June 18, 2 cases; Mobile, May 23-June 6, 2 cases.

California: Los Angeles, May 23-June 6, 2 cases; San Francisco, May 23-June 6, 15 cases.

Illinois: Chicago, May 30-June 6, 1 case; Springfield, May 23-June 11, 6 cases.

Indiana: Fort Wayne, May 23-June 6, 11 cases; Jeffersonville, May 1-31, 30 cases; Indianapolis, May 18-June 7, 17 cases; Lafayette, June 8-15, 3 cases; South Bend, June 6-13, 4 cases; Terre Haute, May 30-June 13, 2 cases.

Iowa: Atlantic, vicinity, May 16, 12 cases; Emerson, June 1, 3 cases; Mason City, May 2-June 1, 19 cases; Ottumwa, May 30-June 6, 1 case.

Kansas: Kansas City, May 30-June 6, 5 cases; Topeka, May 31-June 6, 1 case.

Kentucky: Catlettsburg, May 24, 1 case; Covington, May 30-June 13, 1 case, 1 death.

Louisiana: New Orleans, Jan. 6-13, 3 cases.

Michigan: Detroit, June 6-13, 1 case; Grand Rapids, May 30-June 6, 1 case; Kalamazoo, 2 cases; Port Huron, May 23-30, 4 cases, 1 death; Saginaw, May 30-June 13, 5 cases.

Minnesota: Winona, May 30-June 6, 4 cases.

Missouri: Kansas City, May 23-June 13, 11 cases: St. Joseph, May 23-June 6, 13 cases; St. Louis, May 30-June 6, 1 case.

Nebraska: Friend, June 18, 1 case.

New York: Binghamton, June 1-8, 1 case; Niagara Falls, May 30-June 6, 1 case.

Ohio: Cincinnati, May 22-June 18, 9 cases; Dayton, May 30-June 13, 3 cases; Norwich, June 1, 4 cases; Toledo, May 16-June 13, 10 cases.

South Carolina: May 22-29, 2 cases.

Tennessee: Knoxville, May 30-June 6, 2 cases; Mingo Mountain, June 2, 25 cases; South Pittsburg, June 3-10, 1 case.

Washington: Spokane, May 23-June 6, 18 cases; Tacoma, May 23-30, 2 cases.

Wisconsin: La Crosse, May 30-June 13, 4 cases; Milwaukee, May 23-30, 6 cases; Racine, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, April 26-May 2, 8 cases, 3 deaths.

Porto Rico: Mayaguez, May 31-June 6, 2 cases.

SMALLPOX—FOREIGN.

Arabia: Aden, April 27-May 25, 14 deaths.

Belgium: Ghent, May 9-16, 1 death.

Brazil: Pernambuco, April 1-30, 65 deaths; Rio de Janeiro, May 3-10, 141 cases, 50 deaths.

Canada: Halifax, May 16-June 13, 17 cases; Hamilton, May 1-31, 13 cases; Winnipeg, May 31-June 6, 1 case.

Cape Colony: East London, April 16-25, 1 case, 1 death.

*China: Foochow, April 25-May 9, present; Hongkong, April 25-*May 9, 30 cases, 22 deaths; Nanking, April 25-May 1, present.

Ecuador: Guayaquil, May 9-30, 8 deaths.

Egypt: Cairo, May 13-27, 17 cases, 4 deaths.

France: Paris, May 16-23, 4 cases.

Germany, general, May 9-16, 32 cases.

Great Britain: London, May 23-30, 1 case; Southampton, May 22-30, 2 cases.

India: Bombay, May 5-19, 41 cases, 54 deaths; Calcutta, April 25-May 9, 16 cases, 15 deaths.

Italy, general, May 17-31, 57 cases; Naples, May 23-30, 2 cases; Palermo, May 9-23, 4 cases.

Japan: Osaka, May 2-23, 52 cases 29 deaths.

Java: Batavia, April 11-May 2, 10 cases.

Manchuria: Dalny, May 9-16, 1 case.

Mexico: Aguascalientes, May 31-June 7, 1 death; Mexico City, April 16-May 9, 35 deaths.

Peru: Lima, May 2-27, 2 cases.

Portugal: Lisbon, May 9-30, 10 cases.

Russia: Batoum, March 1-31, 17 cases; Moscow, May 9-23, 55 cases, 23 deaths; Odessa, May 16-23, 3 cases; Riga, May 9-30, 14 cases; St. Petersburg, May 9-16, 52 cases, 10 deaths; Warsaw, April 18-25, 5 deaths.

Siberia: Vladivostok, April 23-May 5, 1 case.

Spain: Barcelona, May 1-31, 1 death; Valencia, May 16-30, 32 cases, 6 deaths.

Turkey: Constantinople, May 17-31, 11 deaths.

Turkey in Asia: Bagdad, April 18-May 16, 83 cases, 10 deaths; Smyrna, April 14-May 5, 7 deaths.

YELLOW FEVER.

Brazil: Manaos, May 9-23, 4 cases, 4 deaths; Para, May 16-30, 5 cases, 5 deaths.

Cuba: Santiago, June 11, 1 case

Ecuador: Guayaquil, May 9-16, 2 deaths.

CHOLERA.

Ceylon: Colombo, May 2-21, 1 case, 1 death.

Cochin China: April 27-May 4, 54 cases, 45 deaths; Saignon, April 1-25, 47 cases, 28 deaths; May 2-9, 30 cases, 25 deaths.

India: Bombay, May 5-19, 3 deaths; Calcutta, April 25-May 9, 394 deaths; Rangoon, April 25-May 9, 11 deaths.

PLAGUE.

Chile: Antofagasta, May 17, 24 cases, 2 deaths; Arica, May 21, present; Valparaiso, March 21-May 14, 5 cases, 3 deaths.

China: Amoy, April 25, epidemic; Hongkong, April 25-May 9, 88 cases, 77 deaths.

Ecuador: Guayaquil, May 9-30, 27 deaths.

Egypt, General, May 13-28, 102 cases, 61 deaths; Alexandria, May 18, 1 case 2 deaths.

India: Bombay, May 5-19, 330 deaths; Calcutta, April 25-May 9, 157 deaths; Rangoon, April 25-May 9, 61 deaths.

Japan: Nara, to May 14, 7 cases; Osaka, May 17-27, 2 cases, 2 deaths.

Peru, general, May 2-23, 60 cases, 30 deaths; Callao, May 16-23, 3 cases.

Straits Settlements: Singapore, April 25, May 9, 2 deaths.

Turkey in Asia: Jiddah, Feb. 14-May 28, 71 cases, 68 deaths; Yembo, 137 cases, 126 deaths.

Venezuela: Caracas, June 4-7, 6 cases, 2 deaths; La Guaira, May 30-June 9, 10 cases, 6 deaths.

Marriages

Ralph Mills, M.D., Decatur, Ill., to Miss Ethel Bumgardner of McNabb., Ill., June 1.

Olander E. Wald, M.D., Chicago, to Miss May Augustine of West Point, Ind., June 17.

Albert Michael Wickstrom, M.D., to Emma Rühi-Maki, M.D., both of Chicago, June 10.

Arthur M. Cheetham, M.D., to Miss Agnes May Robinson, both of Cleveland, Ohio, June 18.

Hugh T. Morrison, M.D., to Miss Mary Logan Coleman, both of Springfield, Ill., June 23.

F. W. McCullough, M.D., Pittsburg, to Miss Mary A. Bortz of Greensburg, Pa., June 6.

William T. Maynard, M.D., to Miss Josephine Frances Mertz, both of Milwaukee, June 9.

Robert M. Dawson, M.D., Wittman, Md., to Miss Agnes B. Battee at Royal Oak, Md., June 10.

Walter W. Gill, M.D., Westfield, N. J., to Miss Mary C. Dunham of Alloway, N. J., June 16.

C. B. Lesher, M.D., Northumberland, Pa., to S. Mable Grier, M.D., of Salem, N. J., June 18.

Joel Isham Collier, M.D., Galveston, Texas, to Miss Susie Saunders of Navasota, Texas, June 9.

Walter W. Rhyan, M.D., Goldfield, Nev., to Miss Verda A. Elliott of South Omaha, Neb., recently.

Richard Dutton, M.D., Wakefield, Mass., to Miss Ethel Florence King of Brockton, Mass., June 9.

Murray D. Cowie, M.D., Ann Arbor, Mich., to Anna Marion Cook, M.D., of Evansville, Ind., June 13.

Otto H. G. Rosenkranz, M.D., Marietta, Ohio, to Miss Inez Adelaide Haymes of Philadelphia, June 17.

R. Granville Campbell, M.D., Lexington, Va., to Miss Ellin North Moale of Baltimore, June 20.

C. M. Kingston, M.D., Grand Forks, B. C., to Miss Martha W. Vankleek, at Armstrong, B. C., June 3.

Henry Honeyman Hazen, M.D., Washington, D. C., to Miss Laura May Ross of Malden, Mass., June 1.

Julian R. Beckwith, M.D., to Miss Louise Cameron, both of Petersburg, Va., at Anniston, Ala., June 11.

Calvin F. McDowell, M.D., New Castle, Pa., to Miss Elizabeth Up De Graph of Beaver Falls, Pa., June 18.

Joseph Lawn Thompson, M.D., Washington, D. C., to Miss Anna Letitia Waters, at Rockville, Md., June 10.

J. E. McManis, M.D., Havensville, Kan., to Miss Jane Vare Dunlap of Leavenworth, at Emporia, Kan., June 17.

Thomas Garrett Pretlow, M.D., Richmond, Va., to Miss Frances Lewellyn Ribble of Wytheville, Va., June 24.

Robert Franklin Cooper, M.D., Centreville, Ala., to Miss Emily Lamar Gibson, at Rockbridge Baths, Va., June 16.

Deaths

George Francis Heath, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1881; a member of the American Medical Association; resident physician at the University Hospital, Ann Arbor, from 1881 to 1884; alderman of Warrensburg, Mo., for two terms; four times mayor of Monroe, Mich.; for many years publisher of the *Numismatist;* one of the organizers, an early president and for many years treasurer of the American Numismatic Association; first president, and since 1892, secretary and treasurer of the Monroe County Medical Society; died at his home, June 16, from cerebral hemorrhage, after an illness of only a few hours, aged 57.

George Jenkin Preston, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1883; a member of the Medical and Chirurgical Faculty of Maryland; professor of physiology and nervous diseases in the College of Physicians and surgeons, Baltimore, since 1890; secretary of the lunacy commission of Maryland since 1898; author of many changes in the lunacy laws of the state; a widely known alienist; neurologist to several hospitals, and author of a standard work on hysteria; died at his home in Baltimore, June 17, from disease of the liver, after a long illness, aged 49.

James D. Roberts, M.D. Bellevue Hospital Medical College, New York City, 1875; a member of the Medical Society of the State of North Carolina; of Mount Olive, N. C.; superintendent of the Eastern State Hospital for the Insane, Goldsboro, from 1881 to 1887; and until recently literary editor of the *North Carolina Medical Journal;* died June 14, at Memorial Hospital, Richmond, Va., from disease of the stomach, after an illness of two weeks, aged 56.

Albert Hartsuff, M.D. Castleton (Vt.) Medical College, 1861; Brigadier General, U. S. Army, retired; who entered the army as an assistant surgeon in 1861; was made captain and brevet lieutenant colonel in 1866; ten years later was promoted to major; in 1892 to lieutenant colonel; served as chief surgeon of Camp George H. Thomas, Chickamauga, Ga., during the early part of the Spanish-American War; was made colonel in 1900; and retired a year later; died suddenly from heart disease, at his home in Detroit, June 22, aged 71.

Alexander H. Young, M.D. Jefferson Medical College, Philadelphia, 1855; a member of the American Medical Association and of the Tri-State Medical Society of Tennessee, Mississippi and Arkansas; for fifty-two years a practitioner of Ripley, Tenn.; local surgeon for the Illinois Central Railroad; died in the Presbyterian Hospital, Memphis, June 14, two days after a surgical operation, aged 77.

Oliver L. Daniel, M.D. Hospital College of Medicine, Medical Department, Central University of Kentucky, Louisville, 1896; a member of the American Medical Association; surgeon to St. Andrews' Hospital, Murphysboro, Ill.; local surgeon to the Big Muddy Coal and Iron Company; and one of the most prominent practitioners of southern Illinois; died at his home, June 21, aged 43.

Alexander Marion Elmore, M.D. Missouri Medical College, St. Louis, 1861; a member of the State Medical Association of Texas; surgeon in the Confederate service throughout the Civil War; professor of proctology in Baylor College of Medicine, Dallas, Texas; died at his home in that city, June 20, from paralysis, after an invalidism of two years, aged 70.

Clifford L. De Vinny, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1876; member of the San Joaquin County (Cal.) Medical Society; a practitioner of Stockton until a few months ago, and later a resident of Santa Cruz; died from nephritis, June 16, three months after an operation for decapsulation of the kidney, aged 59.

James F. Christal, M.D. Cooper Medical College, San Francisco, 1891; a member of the Medical Society of the State of California; at one time resident physician at the State Hospital for the Insane, Agnews; a resident of Santa Cruz; died in St. Luke's Hospital, San Francisco, June 11, after an operation for cancer of the intestines, aged 54.

Royal F. Clark, M.D. Dartmouth Medical School, Hanover, N. H., 1860; a member of the Medical Society of the State of California; surgeon in the army during the Civil War; for many years a practitioner of Los Angeles; died at his home in that city, June 15, from cerebral hemorrhage, after an invalidism of several years, aged 69.

John Randolph Webster, M.D. Rush Medical College, Chicago, 1858; Jefferson Medical College, Philadelphia, 1864; a member of the American and Military Tract medical associations, who recently celebrated his fiftieth anniversary as a practicing physician of Monmouth, Ill.; died at his home in that city, June 19, aged 72.

Joseph Henry Seaton, M.D. Kentucky School of Medicine, Louisville, 1857; surgeon of the Twenty-First Missouri Volunteer Infantry during the Civil War; for many years a practitioner of San Luis Obispo County, Cal.; died at his home in San Luis Obispo, June 13, after an illness of one week, aged 71.

Joseph M. Finnell, M.D. New York University Medical College, New York City, 1887; deputy coroner of Ramsey County, Minn.; formerly assistant health commissioner of New York City; was striken with cerebral hemorrhage, May 30, and died at St. Joseph's Hospital, St. Paul, Minn., June 13, aged 47.

Charles P. Jones, M.D. Jefferson Medical College, Philadelphia, 1849; for many years chief judge of the Orphan's Court and health officer of Worcester County, Md.; died at his home in Snow Hill, June 16, from cerebral hemorrhage, after an illness of five days, aged 83.

Henry F. Carriel, M.D. College of Physicians and Surgeons in the City of New York, 1857; superintendent of the Illinois Central Hospital for the Insane, Jacksonville, from 1870 to 1893, and thereafter a resident of Chicago; died in Jacksonville, June 23, aged 77.

Cornelius Honaker, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1884; for more than forty years a practitioner of Scioto County, Ohio, died at his home in Pond Run, June 18, from dropsy, after an invalidism of four years, aged 76

Charles Oscar Murphy, M.D. Medical School of Harvard University, Boston, 1894, a member of the American Medical Association, for five years a practitioner of New York City died in Corey Hospital, Boston, June 13, after a lingering illness aged 38

Thomas W. Small, M.D. Jefferson Medical College, Philadelphia, 1900, surgeon of the American line steamer *St Louis* died in his cabin June 19, from the effects of a gunshot wound of the brain said to have been self inflicted, with suicidal intent

Michael J. Neville, M.D. Faculty of Medicine Queen's University and Royal College of Physicians and Surgeons, Kingston Ont, 1893, of Brooklyn, N Y; surgeon to St Catherine's Hospital in that city; died in that institution June 22 aged 48

James W. Purdy, M.D. New York Medical College, New York City 1854 surgeon of the Thirty Seventh New York Volunteer Infantry, during the Civil War, died at his home at Brooklyn, June 20, from cerebral hemorrhage, aged 76

John F. Carleton, M D. University of Buffalo (N Y) Medical Department, 1886, a member of the Medical Society of the State of New York, died suddenly at his home in Waterloo, June 18, from heart disease aged 64

William Adolphus Jansen, M.D. Germany; of Miamisburg Ohio, for many years a teacher of physical culture, died in St Elizabeth's Hospital, Dayton, June 10 from senile debility after an illness of four weeks, aged 84

Robert Lambeth, M.D. Memphis (Tenn) Medical College 1853, for many years a practitioner of Mountain Grove, Mo died at his home in Springfield, Mo, June 7, from nephritis after an illness of eight weeks, aged 77

Henry R. Garner, M.D. Cooper Medical College, San Francisco, 1877; formerly of Douglas, Alaska, died at his old home in Chehalis, Wash, May 30, from heart disease, after an illness of two days, aged 66

Daniel Edward Millerick, M.D. Medical School of Harvard University, Boston, 1881, of Boston, Mass, a member of the Massachusetts Medical Society, died at his home in Stoneham Mass, June 18, aged 52

James Robert Lockhart, M D. Cincinnati College of Medicine and Surgery, 1870, for 25 years a member of the school board of Freedom, Pa, a veteran of the Civil War, died at his home, June 15, aged 66

Horace G. Westlake, M D New York University Medical College, New York City, 1850, for 58 years a practitioner of Hillsdale, N Y, died at his home in that place, June 7, after a lingering illness

Arthur J. Buckner (License, Missouri, 1884), for many years a practitioner of Northeastern Missouri, died at his home in Peakesville, June 17, from heart disease, after an illness of three months, aged 71

Daniel Madison Hurley, M D. Bellevue Hospital Medical College, New York City, 1892, died at his home in Norwood, Mass, May 31, from nephritis, after an illness of five months, aged 44

James H. Heller, M.D. Jefferson Medical College, Philadelphia, 1898, of Wilkes Barre, Pa, died at the home of his parents in that city, June 20, after an illness of two years

Claire Sims, M D. Northwestern University Womans Medical School, Chicago, 1898, formerly a practitioner of Chicago, died at her home in Citronelle, Ala, June 14, aged 31

Clyde R. Yoe, M D Vanderbilt University, Medical Department Nashville, Tenn, 1889, *died at his home in Jefferson* City, Tenn, June 17, from rheumatic endocarditis

Alexander A. Kunstlich, M D. Medical College of Indiana, Indianapolis, 1890, died at his home at Passaic, N J, June 21, after an illness of three months, aged 63

Thomas W. Folger, M.D. Atlanta (Ga) Medical College, 1876, died suddenly, June 9, at his home in Central, S C, from heart disease, aged 59

J. S. Canada, M D Louisville (Ky) Medical College, 1879 died at his home in Independence, Miss, June 14, after an illness of several weeks

Frederick Lacy Wheeler, M.D. University of Minnesota, College of Medicine and Surgery, Minneapolis 1904, of Argyle, Minn, died June 14

Elizabeth Uncapher, M.D. Homeopathic College University of Michigan, Ann Arbor, 1886, died at her home in Houston, Texas, June 18

Medical Education and State Boards of Registration

COMING EXAMINATIONS

UTAH State Board of Medical Examiners Salt Lake City July 6-7 Secretary Dr R W Fisher Salt Lake City

ARIZONA Board of Medical Examiners Phoenix, July 6-7 Secretary Dr Ancil Martin Phoenix

KENTUCKY State Board of Health Louisville July 7 Secretary, Dr J N McCormick Bowling Green

WASHINGTON State Medical Examining Board Seattle July 7 Secretary, Dr C W Sharples 528 Burke Bldg Seattle

COLORADO State Board of Medical Examiners State Capitol Bldg, Denver, July 7 Secretary, Dr S D VanMeter, 1723 Tremont St, Denver

MAINE Board of Registration of Medicine State House Augusta July 7-8 Secretary Dr Wm J Maxbury, Saco

NORTH DAKOTA State Board of Medical Examiners Grand Forks July 7-9 Secretary Dr H M Wheeler, Grand Forks

OREGON State Board of Medical Examiners, Portland July 7-9 Secretary, Dr Byron E Miller "The Dekum, Portland

SOUTH DAKOTA State Board of Medical Examiners, Deadwood July 8 Secretary, Dr H L McNutt, Aberdeen

NEW MEXICO Board of Health and Medical Examiners The Capitol, Santa Fe July 13-14 Secretary, Dr J A Massie Santa Fe

ARKANSAS Regular Board of Medical Examiners State Capitol Bldg, Little Rock, July 14 Secretary Dr F T Murphy Brinkley

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock July 14 Secretary, P C Williams Texarkana

ARKANSAS Eclectic Board of Medical Examiners Little Rock July 14 Secretary Dr A J Widener, Little Rock

CONNECTICUT Homeopathic Medical Examining Board New Haven July 14 Secretary Dr Edwin C M Hall 82 Grand Ave New Haven

CONNECTICUT Eclectic Medical Examining Board Hotel Garde, New Haven, July 14 Secretary, Dr T S Hodge, 16 Main St Torrington

CONNECTICUT Regular State Medical Examining Board City Hall New Haven, July 14-15 Secretary, Dr Charles A Tuttle 196 York St, New Haven

DISTRICT OF COLUMBIA Board of Medical Supervisors Washington July 14 Secretary, Dr George C Ober, 210 B St S E, Washington

WEST VIRGINIA State Board of Health, Charleston, July 14-16 Secretary, Dr H A Barbee Pt Pleasant

MASSACHUSETTS Board of Registration in Medicine State House Boston, July 14-16 Secretary, Dr Edwin B Harvey Room 159, State House, Boston

VERMONT State Board of Medical Registration, Burlington July 14-16 Secretary, Dr W Scott Nay, Underhill

WISCONSIN Board of Medical Examiners Park Hotel, Madison, July 14-16 Secretary Dr J V Stevens Jefferson

NEW HAMPSHIRE State Board of Medical Examiners, State Library Concord July 15-16 Regent Mr H C Morrison, Concord

Ohio Board Requires Practical Tests

At the examination held by the Ohio State Board of Medical Registration and Examination at Columbus, June 8, 9, and 10 besides the usual written examination, practical examinations in pathology, bacteriology and chemistry were required In these practical tests each applicant was asked to identify pathologic specimens bacteria and urinary sediments and to make a urine analysis These tests were conducted at the same time as the written examination in one corner of the examination hall and in the presence of the entire class An extension of time equal to that required for the practical test was granted to those who were called from their written work There were 161 applicants at the examination and it required about fifty minutes for each appplicant to complete the practical test The results are said to have been highly satisfactory and the board will doubtless require these practical tests at all future examinations

Arkansas April Report.

Dr F T Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, April 14, 1908 The number of subjects examined in was 7, total number of questions asked, 70, percentage required to pass, 75 The total number of candidates examined was 69, of whom 38 passed, including 33 nongraduates, and 31 failed including 29 non graduates The following colleges were represented

PASSED.

College.	Year. Grad.	Per Cent.
College of P. and S., Chicago	(1902)	85
Tulane University of Louisiana	(1901)	80
Washington University, St. Louis	(1897)	87
Memphis Hosp. Med. Coll.	(1905) 87; (1906)	90

FAILED.

College.	Year. Grad.	Per Cent.
Louisville Nat. Med. Coll.	(1904)	66
University of West Tennessee	(1908)	73

LICENSED WITHOUT EXAMINATION.

There were also licensed at this examination seven old practitioners, including three non-graduates, who were granted license by reason of having been registered under the old law. The following colleges were represented:

College.	Year of Grad.
Cooper Medical Coll.	(1887)
Baltimore University	(1896)
University of the South	(1899)
Memphis Hosp. Med. Coll.	(1901)

Colorado April Report.

Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, April 7, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 70. Thirty-eight applicants were licensed at this examination, five of whom passed the examination, and thirty-three were registered on presentation of satisfactory credentials, including state licenses. One of the applicants appearing for examination failed to make the required percentage. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1907)	76, 79.3, 83.6
Northwestern University Medical School	(1907)	70.5
American Medical College, St. Louis	(1905)	76.5

REGISTERED ON CREDENTIALS.

College.	Year Grad.	State Licenses.
Rush Medical College	(1903) Missouri; (1907)	Texas
Northwestern Univ. Med. School	(1893) Illinois; (1905)	Illinois
American Medical Miss. College	(1903)	Illinois
Coll. of P. and S., Chicago	(1906) Illinois; (1907)	Idaho
University of Iowa	(1907)	Iowa
University of Louisville	(1885)	Missouri
Johns Hopkins Medical School	(1899)	Maryland
Boston University	(1885)	Mass.
Medico-Chirurgical College, Kansas City	(1903)	Kansas
St. Louis Medical College	(1889)	Missouri
University Med. Coll., Kansas City	(1896)	Missouri
Kansas City Medical College	(1894)	Nebraska
Central Medical College, St. Joseph	(1898)	Missouri
Omaha Medical College	(1888) Kansas; (1899) California; (1892)	Utah
Long Island College Hospital	(1901)	New York
Albany Medical College	(1899)	Illinois
Bellevue Hospital Medical College	(1892)	Illinois
Berkshire Medical College	(1867)	New York
University of Pennsylvania	(1903)	Penna
Jefferson Med. Coll.	(1903), (1904), (1905)	Penna
Hahnemann Med. Coll., Philadelphia	(1895)	Maine
Medico-Chirurgical College, Philadelphia	(1893), (1899), (1904)	Penna
University of Nashville	(1905)	Tennessee
University of Vermont	(1905)	Vermont

FAILED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1907)	61.8

Montana April Report.

Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the written examination held at Helena, April 7-9, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 32, of whom 21 passed and 11 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Colorado	(1906)	75
American Med. Miss. Coll.	(1907)	80.5
Rush Med. Coll.	(1904)	84.3
College of P. and S., Chicago	(1905)	83.4
College of P. and S., Baltimore	(1906)	81.6
University of Michigan	(1904) 78.2; (1906)	77.1
University of Minnesota	(1907)	75
University Med. Coll., Kansas City	(1901) 77.8; (1902)	76
Creighton Med. Coll.	(1903)	75
Bellevue Hosp. Med. Coll.	(1888)	79.1
University of Buffalo	(1901)	83.2
Medical Coll. of Ohio	(1904)	76.7
Miami Med. Coll.	(1906)	75.1
University of Virginia	(1907)	77.5, 80
Toronto University, Ontario	(1900) 75.5; (1905) 81.9; (1907)	84.4.
McGill University, Quebec	(1903)	80.7

FAILED.

College.	Year. Grad.	Per Cent.
George Washington University	(1907)	63.6
Rush Med. Coll.	(1886)	58.8
College of P. and S., Chicago	(1905)	69.9
Chicago Homeo. Med. Coll.	(1897)	72.1
Bennett Coll. of Ecl. Med. and Surg.	(1879)	*47.5
Sioux City Coll. of Med.	(1906)	*66.2
Kansas Med. Coll.	(1904)	68.7
Minneapolis Coll. of P. and S.	(1899)	70.3
Washington University, St. Louis	(1904)	53.3
University Med. Coll., Kansas City	(1903)	69.7
St. Louis University	(1904)	56.3

Massachusetts March Report.

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at the State House, Boston, March 10-12, 1908. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 64, of whom 35 passed, including one non-graduate, and 29 failed, including 8 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Howard College	(1907)	75, 78
Georgetown University	(1906)	75.7
Yale Medical School	(1893) 75; (1906)	81.9
College of P. and S., Chicago	(1905)	76.5
Northwestern University Medical School	(1899)	75.7
Johns Hopkins Medical School	(1906)	81.5, 82.9
Baltimore Medical College	(1906) 75, 79; (1907)	76.4
College of P. and S., Baltimore	(1893)	75
Tufts College Medical School	(1907)	75, 75.2, 77.2
Harvard Medical School	(1906) 75.6, 82.7, 83.5; (1907)	79.6, 81.7, 82.5, 84.1, 84.2; (1908) 83.7.
Cornell University	(1905)	83.5
Jefferson Medical College	(1901)	79.1
University of Pennsylvania	(1899)	75
Woman's Med. Coll. Pennsylvania	(1902) 75; (1906)	76.5
University of Vermont	(1903) 77.2; (1906) 75; (1907)	75
McGill University, Quebec	(1907)	81.6

FAILED.

College.	Year Grad.	Per Cent.
Howard University	(1907)	70.8
Baltimore University	(1907)	70
Maryland Medical College	(1906) 63.9; (1907)	70.6
Baltimore Med. Coll.	(1902) 60.2; (1905) 67.5; (1907)	67.9
Tufts College Medical School	(1907)	70.9
Boston University	(1907)	70.7
Coll. of P. & S., Boston.	(1905) 69.9; (1906) 54.7; (1907)	68.9
Barnes Medical College	(1900)	30.7
Jefferson Medical College	(1897) 71.5; (1907)	72
University of Vermont	(1900)	58.2
Laval University, Quebec,	(1902) 65; (1904) 54.1; (1906)	56.2
University of Naples, Italy	(1890) 54; (1895)	65

Rhode Island April Report.

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 2, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candiddtes examined was 12, of whom 7 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Yale Medical School	(1907)	82.9
Johns Hopkins Medical School	(1905)	88.1
University of Maryland	(1902)	80.0
Maryland Medical College	(1907)	80.3
Tufts College Medical School	(1906)	80.2
Baltimore University	(1907)	80.1
Harvard Medical School	(1907)	86.1

FAILED.

College.	Year Grad.	Per Cent.
Baltimore University	(1904)	71.1
Harvard Medical School	(1906)	71.1
University of Naples, Italy	(1903)	64.6
Non-Graduates		62, 75.4

West Virginia April Report.

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written examination held at Parkersburg, April 14-16, 1908. The number of subjects examined in was 9; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 20, of whom 18 passed and 2 failed. The following colleges were represented:

College.	Year Grad.	Per Cent
PASSED.		
College of P. and S., Chicago	(1897)	86
Kentucky School of Medicine	(1906) 85; (1907)	80, 81
Hospital College of Medicine, Louisville	(1906)	90
Tulane University of Louisiana	(1902)	91
College of P. and S., Baltimore	(1906)	96
Baltimore Medical College	(1905) 83; (1907)	84
Baltimore University	(1905)	83
Johns Hopkins Medical School	(1906)	94
University of Maryland	(1906) 84; (1907)	89
Maryland Medical College	(1904)	90
Jefferson Medical College	(1907)	91
Chattanooga Medical College	(1908)	85
Medical College of Virginia	(1907)	86
University of Virginia	(1907)	88
FAILED.		
Kentucky School of Medicine	(1905)	74
Baltimore University	(1900)	11

Missouri May Report.

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at Kansas City, May 4-6, 1908. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 68, of whom 52 passed and 16 failed. The following colleges were represented:

College.	Year. Grad.	Total No Examined
PASSED.		
Howard University, Washington	(1906)	1
Rush Med. Coll.	(1904), (1906)	2
Northwestern Univ. Med. School	(1907)	1
University of Kansas	(1, 1907), (7, 1908)	8
Baltimore Med. Coll.	(1907)	1
Tufts Coll. Med. School	(1907)	1
Washington University, St. Louis	(1907)	2
Ensworth Medical College	(1908)	7
Homeopathic Med. Coll. of Missouri	(1908)	1
St. Louis Coll. of P. and S.	(1908)	5
University Med. Coll., Kansas City, (1, 1906), (1, 1907), (16, 1908)		18
Barnes Med. Coll.	(1905)	1
Kansas City Hahnemann Med. Coll.	(1908)	1
University of Nashville	(1907), (1908)	2
University of Toronto, Canada	(1898)	1
FAILED.		
College of P. and S., Chicago	(1902)	1
Ensworth Med. Coll.	(1908)	2
Homeopathic Med. Coll of Missouri	(1908)	1
University Med. Coll., Kansas City	(1908)	5
Kansas City Hahnemann Med. Coll.	(1908)	2
St. Louis Coll. of P. and S.	(1908)	3
Meharry Med. Coll.	(1906), (1907)	2

Society Proceedings

COMING MEETING.

American Ophthalmological Society, New London, Conn., July 15-16
American Public Health Association, Winnipeg, Can., Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng., Cleveland, Aug. 27-29.
Medical Society of Wisconsin, Sheridan, Aug 28.

AMERICAN PEDIATRIC SOCIETY.

Annual Meeting, held at Delaware Water Gap, Pa., May 25-26, 1908.

The President, Charles Gilmore Kerley, M.D., New York, in the chair.

Officers Elected.

The following officers were elected: President, Dr. Charles B. Putnam, Boston; vice-presidents, Drs. Isaac A. Abt, Chicago, and T. S. Southworth, New York; secretary, Dr. Samuel S. Adams, Washington, D. C.; recorder, Dr. L. E. La Fetra, New York; treasurer, Dr. J. Park West, Bellaire, Ohio; member of council, Dr. Alfred Hand, Jr., Philadelphia.

The next place of meeting is to be Lenox, Mass.

Serotherapy of Epidemic Cerebrospinal Meningitis.

Dr. Simon Flexner, New York, said that he owed his ability to bring before the society a large number of figures relating to cases treated with the serum to the fact that several of the members had been very active, indeed strenuous in subjecting it to a clinical test. It had been about one year since the serum was first used in this country. He had statistics on something less than 400 cases, all diagnosed bacteriologically as well as clinically, in which the serum had been employed. In the last year the use of the serum had been somewhat modified, larger and more frequent doses being employed. A larger percentage of recoveries were shown than in previous series. Cases were treated much earlier now, which was a point of great value. The speaker emphasized this point and compared it with the early use of the diphtheria antitoxin. The serum belonged to the class of bacteriolytic sera rather than to the antitoxic class. It exerted a deleterious effect on the micro organisms; their viability was to a certain extent lost. It was not wholly devoid of antitoxic properties, but its chief value was in the destruction of the micro-organisms. The figures were based on 322 cases treated in this country and abroad, which he had analyzed. Of 247 in this country, 68 died and 179 recovered, a case mortality of 27 per cent That included not a few treated very late, and some treated early but in which the conditions were desperate, and some in which death occurred within twenty-four hours after the injection. Some underwent a marvelous change after one or two injections. There were 13 under one year of age; the youngest 4 weeks; of these 5 died and 8 recovered, a case mortality of 37.5 per cent. The child 4 weeks old recovered. There were 26 between one and two; the mortality of this series being precisely the same; 45 between two and five, of which the mortality was 22 per cent.; 62 between five and ten, of which the mortality was 11 per cent.; 57 between ten and twenty, of which the mortality was 28 per cent., and finally 44 over twenty, of which the case mortality was 45 per cent.; 47 terminated by so-called crisis and 124 by so-called lysis. He emphasized that there occurred in these cases a sudden and prompt termination of the disease; 72 of the 322 cases came from Great Britain, in which the mortality was 30 per cent., the previous mortality, not treated with the serum varying from 75 to 80 per cent. He felt that as a therapeutic agent directed to such a serious disease it should not be adopted too soon, but should be given the most thorough test until such time as there could be no doubt and it should be made by those who have observed the disease before the introduction of the serum and since. Certainly the disease was apparently modified in its intensity and whether the mortality was greatly reduced or not that was of considerable importance.

Diagnostic Value of the Chemical and Bacteriologic Examination of Cerebrospinal Fluid.

Dr. Alfred Hand, Jr., Philadelphia, referred to the importance of the exact diagnosis of the disease and said lumbar puncture furnished the means for such diagnosis. Interpretation of the fluid was sometimes easy and sometimes very difficult. If the fluid shows marked opalescence, which disappears as the fibrin forms, and the fibrinous net-work contains tubercle bacilli, diagnosis is positive. The diplococci may be found in the pus cells or in the fluid, but usually in the fluid. The fluid may be very slightly turbid so that it is difficult to recognize it. Examination should be made as soon after the fluid is obtained as possible and loopfuls transferred to slide and stained immediately. Test tube containing the fluid may be allowed to stand several hours that the fibrin net-work may be formed, which is transferred to slide with needle, spread out and fixed by heat. Chemical examination of the fluid for albumin may be made at this time. Normal amount of albumin about 0.5 per cent. Half of the fluid may be used for the phenol-hydrazin test for sugar. Examination may then be made for the pneumococcus or meningococcus. Differential count of leucocytes of great value when it can be made.

Hydrocephalus of Meningococcus Origin, with Remarks on the Serotherapy.

Drs. J. H. Mason Knox, Jr., and Frank J. Sladen, Baltimore, reviewed the literature of the subject and said that they believed the use of the serum would do much to prevent the development of hydrocephalus. They reported two cases treated with the serum; one a boy of 15, with very severe infection, ill ten days when first seen; meningococci in the fluid; improved markedly in three days; developed otitis media and paracentesis of both tympanic membranes done; hearing impaired but better when he left hospital. Second case, child of 7, seen early in the disease; received but two doses; after the first symptoms markedly improved and after the second uninterrupted convalescence. Dr. Sladen had gone carefully over the cases of meningitis before the use of the serum and found of 33 cases, 21 died and 12 recovered; lowest mortality in any one year, 43 per cent. In the last four and one-half months 21 cases admitted; all treated by lumbar puncture and injections of serum; of these 3 died and 18 recovered; mortality of 14 per cent.; the three fatal cases were of unusually virulent type.

Serotherapy of Cerebrospinal Meningitis.

Drs. Charles Hunter Dunn, Boston, and Frank Spooner Churchill, Chicago, each read a paper on this subject, reporting cases. The articles appear in full in this issue of The Journal, on pages 15 and 21, respectively.

Other Methods Compared to Serotherapy of Cerebrospinal Meningitis.

Dr. Henry Koplik, New York, said it was often apparent in considering the therapy of any disease that we sometimes lose sight, in the presence of some favorable results, of the nature of the affection, and in no disease was this more common than in cerebrospinal meningitis. As had been pointed out by Osler this disease closely resembles pneumonia in its behavior. It occurs sporadically and epidemically. In the sporadic cases we rarely meet with the severe forms. It had to be admitted that on the whole the symptomatology of the sporadic and epidemic forms was alike, but the sporadic form runs a much milder course than the epidemic form. The sporadic form rarely reveals purulent fluid at the onset. Dr. Koplik had the records of sporadic cases treated since 1899 up to the epidemic years of 1904-5. The symptomatic treatment was begun in 1899. This consisted in careful study of the symptoms and lumbar puncture repeated as often as symptoms warranted it. During 1899 and 1900 there were 8 cases of meningococcic type; during 1901 to 1903, 13 cases, thus making 21 sporadic cases. Of these, 8 patients died, a mortality of 38 per cent. Of these 8, 6 were below one year of age. There were 2 recoveries in those below one year, and 2 between the ages of one and two.

In the epidemics of 1904-5 the history of the disease was a more virulent one; some died a few hours after admission. In the first epidemic year there were 39 cases and 21 deaths, a total mortality of 53 per cent. Of these 21 deaths 13 were below thirteen years of age; 26 above the age of two. Of these 9 died, a mortality of 34 per cent. In 1905 there were 35 cases, of which 17 died, a total mortality of 48 per cent. Of the 17 deaths, 10 were below two years of age. The mortality was practically 100 per cent. in those under one year of age. Thus in the two epidemic years there were 51 cases above two years of age with a mortality of 31 per cent. There were 23 cases in these two years below two years of age, of which 78 per cent. died outright.

In the sporadic cases simple lumbar puncture saved four children below two years; in the epidemic form none were saved. Dr. Koplik did not believe in puncture unless there was distinct indication for it. To be punctured the patient must have symptoms of pressure. The serum was introduced not by a syringe but by a funnel and an attempt made to introduce the same amount of fluid that was drawn off. In the thirteen cases treated with the serum the ages varied from 3½ to 5½ years; three were below 1 year. Of those below 1 year one was discharged at 10 months. Those over 2 years recovered. In the children below 1 year that died the youngest, 3½ months, had been ill two weeks on admission.

DISCUSSION ON SEROTHERAPY OF MENINGITIS.

Dr. L. Emmett Holt, New York, said statistics were collected of 2,350 cases in the epidemic of 1904 in New York, of which the mortality, all non-serum treated, was 75 per cent., and of 350 cases in which the duration of the disease was known, 50 per cent. lasted five weeks or longer. This was very striking in comparison with the cases reported at this meeting. During epidemic years they treated 83 cases and lost every case under one year of age. He considered the showing very encouraging.

Dr. Thomas Morgan Rotch, Boston, was loath to speak of epidemic and sporadic cases; the organism ruled the disease; it did not differ in any essential way. Ward trial showed that the injections did no harm and he considered this a very important point as there was no time to wait; the injections should be given at once. He believed that sometimes life might be saved by injecting twice in the twenty-four hours. If the treatment were pushed many of the distressing sequelæ might be avoided.

Dr. Frank J. Sladen, Baltimore, said that in 21 cases in Dr. Barker's clinic the effect had been just about as described by Dr. Churchill and Dr. Dunn—a rapid drop in temperature within twenty-four hours. There was increase in polymorphonuclear leucocytes after one injection. Extracellular organisms found in the first specimens were intracellular in subsequent ones. The bacteria were destroyed—lost their staining characteristics and viability, suggesting a bacteriolytic property. The rapidity with which the symptoms disappeared also suggested an antitoxic property.

Dr. A. Jacobi, New York, thought that where subnormal temperature was noted it was due to a complication not yet understood and might be treated with something in addition to the serum, as alcohol was used in the treatment of diphtheria sometimes where the antitoxin did not benefit. He considered the results shown very encouraging.

Dr. John Lovett Morse, Boston, said that when the organisms were found in the cells and outside the cells and a culture was obtained and then the next day after giving the serum no organisms were found outside the cells and a diminished number within the cells, and no cultures, there could be no doubt. He thought lumbar puncture should be done on suspicion of the disease; one should not wait for signs of increased pressure. He thought the serum should be used early and often, at least once a day and sometimes oftener.

Dr. W. W. Wilkinson, Washington, D. C., said that of ten cases treated at the Garfield Hospital there were seven recoveries and three deaths, and of the three patients that died one had chronic hydrocephalus on admission, one was not given large enough doses at first, and the other was in a comatose condition when treatment was begun.

Dr. Samuel S. Adams, Washington D. C., emphasized the fact that by this treatment the distressing *sequelæ* of the disease were lessened. He had had one case in a child of seven months in which the pressure was so great that it burst through the fontanelle; improved *markedly after* the first injection. In a boy of thirteen with most intense symptoms, opisthotonos and convulsions, there was complete recovery. He thought the treatment offered better results than any other method of the past three decades.

(*To be continued.*)

NEBRASKA STATE MEDICAL ASSOCIATION.

Fortieth Annual Meeting, held in Lincoln, May 19-21, 1908.

Governor's Address of Welcome.

Governor Sheldon spoke of the gratitude of the state as a whole and of himself personally for the work done and the advancement made in medical legislation since the organization of the State Medical Association. He urged physicians to take a more active part during the next legislature. They better than any other class of citizens know the true cause of so many degenerates. Coming in contact as they do with the home life they know the causes of degeneracy and realize that it is high time in this country that steps should be taken to regulate the marriage laws. Governor Sheldon said it was well enough to pay attention to the divorce laws, but that it would be much better to regulate the marriage laws and thus strike at the root of the trouble. He expressed himself as heartily in favor of a law that would allow no one to marry without a certificate from a physician of good standing, stating that they are capable of bearing healthy offspring and urged the men of the medical profession to be present at the next session of the legislature with some ideas, if not a bill prepared, along these lines.

Dr. F. A. Long, Madison, responded to the address of welcome.

At 7:30 p. m. Tuesday the President's reception was held and the President delivered his address.

Officers Elected.

The following officers were elected: President, Dr. L M Shaw, Osceola; vice-presidents, Drs. F. J. Rosenburg, Lexington, and F. E. Coulter, Omaha; secretary, Dr. A. D. Wilkinson, Lincoln; treasurer, Dr. V. S. von Mansfelde, Ashland corresponding secretary and librarian, Dr. H. W. Orr, Lincoln delegates to the American Medical Association, Dr. H. Gifford, Omaha; alternate Dr. R. A. Mitchell, Lincoln.

The officers for the various sections were chosen as follows Section on Surgery—Chairman, Dr. J. P. Lord, Omaha; secretary, Dr. R. R. Hollister, Omaha. Section on Medicine—Chairman, Dr. A. Dunn, Omaha; secretary, Dr. H. J. Lehnhoff, Lincoln. Section on Gynecology and Obstetrics—Chairman, Dr. Palmer Findley, Omaha; secretary, Dr. Georgiana Grothan, Kearney.

The next meeting will be held in Omaha.

Dr. E. J. C. Sward, Oakland, secretary of the State Board of Health, made an exhaustive report of the recent work done by the State Board of Health and made important recommendations as to legislation affecting the collection of vital statistics and the regulation of matters of state sanitation.

Use of Plaster of Paris in the Treatment of Deformities.

Dr. H. Winnett Orr, Lincoln, directed attention to the fact that the popular belief in curative influence in mechanical appliances in the treatment of deformities is usually erroneous. The usual method of applying to a brace maker for treatment of all kinds of deformities leads to unfortunate delay of proper surgical and other orthopedic measures. The necessity of adequate preliminary treatment before the application of apparatus or plaster of Paris was pointed out. The points which characterize the modern treatment of deformities are the use of the open method in dividing resistant structures before attempting correction and the use of muscle and nerve transplantation to restore destroyed functions and to do away with the overaction of contracted muscles. The great usefulness of proper application of plaster of Paris and other mechanical devices in the subsequent treatment after operation was shown. Three patients were presented to illustrate the use of plaster of Paris in postoperative treatment for torticollis, hip-joint operations and also in the treatment of lateral curvature.

Acute Glaucoma.

Dr. D. C. Bryant, Omaha, read a paper covering the etiology, diagnosis, pathology and treatment of acute glaucoma and the facts on which a prognosis may be based.

Blastomycosis of the Skin.

Dr. C. L. Mullins, Broken Bow, reported a case of cutaneous blastomycosis with a complete account of the patient's symptoms and a consideration of the differential diagnosis. In addition to the clinical report and details of treatment the microscopic findings were given. He also reviewed briefly the literature of the subject and the laboratory methods for the examination of material suspected to be of this character.

Dilatation of the Stomach.

Dr. H. L. Akin, Omaha, classified dilation of the stomach into three groups: 1, the physiologically dilated stomach; 2, dilation produced by gastroptosis; 3, true dilatation. The last he selected as his subject for discussion. He discussed the factors which enter into production of dilated stomach and pointed out the conditions in which a dilatation may be brought about where either the motility was diminished or the total of contents plus resistance were disproportionately increased. As factors in the etiology he listed the various forms of indigestion and the means to be used in making a diagnosis. Under the head of treatment lavage was urged. He recommended dietetic treatment, which while necessarily variable must be accorded most careful consideration. Supporting bandages are often of assistance to the overtaxed stomach muscles. Of medicines nux vomica and strychnin are the most important therapeutic agents at our command.

Pulmonary Tuberculosis.

Dr. W. H. Mick, Denver, reported a series of twelve patients in whom a microscopic diagnosis of pulmonary tuberculosis had been made. He argued in favor of proper exercise and massage, outdoor treatment, the use of *x*-rays, which he claimed have a beneficial effect on all tuberculosis conditions, arguing that if patient did not improve in from 60 to 90 days a change in climate should be insisted on. He says that too many patients have been kept at home so long that they fail to be benefited by a change in climate or tent life. He stated that patients who improve from tuberculosis in high altitudes must remain permanently. Patients should be taught to control the cough and he asserted that tuberculin does more harm than good and argued in favor of streptolytic serum.

Conservatism in the Treatment of Appendicitis.

Dr. O. Grothan, Kearney, asserted that at the present time the manner of performing an appendectomy was not so important a topic for discussion as whether it should be performed at all. He argued that those who have operated in every case had encouraged a great deal of untimely surgery. Dr. Grothan lamented the fact that the profession could not agree on a method of treatment advocated some years ago by Ochsner, Robinson and others and argued in favor of expectant treatment with the use of opiates, relieving flatulence by rectal irrigation and complete restriction of nourishment by the mouth. The operative treatment was severely criticized and it was urged that it be used only in exceptional and very urgent cases.

Appendicitis.

Dr. H. W. Quirk, Crete, read a paper on appendicitis in which he reviews very carefully the embryology and anatomy of the abdominal cavity, especially as relating to the changes which take place in the cecum and appendix. He also reviewed the diagnosis and treatment of appendicitis from a historical standpoint and quoted extensively from literature in regard to the changes which have taken place in ideas regarding these points. He argued for the discontinuance of the opium treatment and is in favor of controlling the pain by the application of ice. He claimed that by such means he was able greatly to relieve his patients and carry many through an acute attack.

Purin Autointoxication Due to the Non-Use of Meat.

Dr. R. J. Midgley, Omaha, directed attention to the views of modern clinicians with regard to uric acid diathesis. He particularly quoted Osler and von Noorden as to their views on these questions. He pointed out that the methods of formation of uric acid in the body would be a question of only ordinary interest except that when it is present in excessive amounts we must have means at hand for promoting its combustion and elimination. Purin on the other hand must be estimated indirectly in as much as any quantity present in the body at any given time depends on the presence or absence of their destroying the enzymes. Some patients take an excess of purin-containing food while in others there has been no abnormal intake, but on account of faulty metabolism purins have accumulated. The therapeutics of these two classes of patients must necessarily therefore be quite different. He concludes that if there is a purin autointoxication it can arise from defects of meat in diet, also that this form of purin poisoning can be cured by the use of meat. Hyperacid urine is not always due to meat eating, but meat may be used as an antacid. Meat is not to be prominent in the diet except for good cause and dietetics should have more general attention.

Acute Dilatation of the Stomach.

Dr. A. S. McKinnon, Lincoln, said that this condition seems to occur most frequently following laparotomy. After a review of the literature Dr. McKinnon reported two cases in which the patients presented the classical symptoms. The first patient, aged 17, died the fourth day following operation, while the second improved without the stomach having been made the subject of operative treatment.

First Aid in Fractures.

Dr. A. B. Anderson, Pawnee City, quoted the remark of the late Dr. Senn that bad results following fractures have been the tombstone of an otherwise brilliant career of many ill-fated practitioners. The treatment of fractures is often undertaken by absolutely inexperienced physicians. He pointed out the dangers of the improperly applied fixed dressings and emphasized the importance of a careful consideration of the patient's general condition as well as of the local injury in making a diagnosis and applying treatment. He also emphasizes the importance for careful consideration of injury to soft parts associated with the fractured bone and reported cases illustrating some of the bad results that may follow inadequate diagnosis and improperly applied dressings. In conclusion he outlined some of the methods to be used in the treatment of ordinary fracture.

Fractures: Symptoms and Diagnosis.

Dr. S. C. Beede, David City, discussed the general symptoms of fractures and pointed out the subjects of error in diagnosis. He emphasized crepitus as a positive sign of fracture. He emphasized the necessity for taking into careful consideration the history of the injury and took the position that an examination should not be made except in an emergency until this had been done. The value of x-ray was pointed out, but it was emphasized that careful interpretation of the findings based on thorough anatomic knowledge was absolutely necessary.

X-Ray in the Diagnosis and Treatment of Fractures.

Dr. John Prentiss Lord, Omaha, pointed out that the use of the x-ray has disclosed the frequency with which imperfect apposition of the fragments has been obtained by the ordinary method of treatment of fractures. X-ray illuminations have rendered necessary not only great care in diagnosis and treatment but we must now explain to our patients the fact that exact apposition and perfect union are the exception rather than the rule. The x-ray has solved many of the problems of diagnosis and treatment and has eliminated a large part of the guess work in this branch of surgery. The medicolegal phase of the subject was dismissed with a suggestion that we should be more careful in our statements to patients when they think that the x-ray picture shows a bad result even when the functional use of the extremity is unimpaired. One radiograph of a fractured bone is inadequate to establish a conclusion in regard to these injuries.

Open Treatment of Fractures.

Dr. A. C. Stokes, Omaha, took the position that while most fractures fall under the care of the general practitioner they, as a rule, require the most advanced surgical skill. He pointed out the fact that operative treatment under proper precautions would produce more ideal results in fractures but emphasized the fact that in his own experience the most careful observance of surgical technic did not always protect him from having infections after operating on recent fractures. He discussed in some detail the technic of open operation for fractures of the end of the femur and spiral fractures of the shaft. He concludes that recent literature points to conservativeness in operative treatment. Many bad results are the result of inadequate diagnosis and imperfect reduction. The x-ray must be used. Fractures treated by operation heal more slowly than by the usual treatment. The callus formed is larger after operation. Fracture operations are very liable to infection. The use of wires, screws, nails, etc., is to be avoided.

The Lower Femoral Epiphysis.

Dr. B. F. Lorance, Auburn, reported a case of severe injury in a boy of nine to the soft parts of the thigh just above the knee, associated with separation of the epiphysis from the femur. The lower end of the shaft protruded through the wound a distance of about four inches. Although there was extended sloughing the patient obtained a good result.

Fractures of Condyles of the Humerus.

Dr. D. J. Reid, Crab Orchard, asserted that fractures into the joint would not result in ankylosis if they were uncomplicated and properly handled in the matter of a change in dressings, etc. He urged that the deformity in many of these fractures should be remedied by open operation. He recommended that the arm be dressed in complete flexion with a change in dressings on the seventh or eighth day in a new position. He emphasized the importance of dressing the arm in flexion so that in case of ankylosis an arm useful for all ordinary uses could be obtained.

Other Papers Read.

The following papers were also read:

"Deviation of the Septum," W. R. Hobbs, Omaha; "Bier's Hyperemia," C. W. M. Poynter, Lincoln; "Diagnosis," F. W. Conwell, Neligh; "Ruts—Fads—Improvements," F. A. Weir, Hastings; "Static Electricity," F. A. Wells, Strang; "Adding a Grain of Salt to Professional Ethics," C. J. Alger, Leigh; "Puerperal Infection with Special Reference to Prevention and Treatment," Georgiana Grothan, Kearney; "Treatment of Pneumonia," J. M. Mayhew, Lincoln; "Retroflexion of Uterus," W. O. Henry, Omaha; "Foreign Bodies in the Abdomen," Palmer Findley, Omaha; "Operative Treatment of Cancer, with Special Reference to Cancer of the Breast," J. E. Summers, Omaha; "Malnutrition and Society," F. C. Philbrick, Lincoln; "Nutritional Diseases in Infants," H. M. McClanahan, Omaha; "Drug Therapeutics," B. N. Corbin, Schuyler; "Congenital Disease of the Heart," J. Stanley Welch, Lincoln.

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Philadelphia, May 20-22, 1908.

(Continued from page 2106.)

The Weight of the Brain as Influenced by Nutrition or Disease.

Dr. H. H. Donaldson, Philadelphia, reported his experiments with the brains of white rats and compared these results with those observed in men. It was found that the normal brain weight begins to decrease early in life, in man in the eighteenth or twentieth year. In disease the loss of weight is greater in chronic than in acute diseases. While the loss in weight of the other tissues of man in disease amounts to 24 per cent. that of the brain is only 3 per cent. As a result of improper nutrition in otherwise healthy subjects the brain weight is reduced 4 per cent. There is no loss in the spinal cord in either case.

DISCUSSION.

Dr. J. J. Putnam, Boston, asked on what structures in the brain the loss chiefly falls, whether on the nerve elements or the myelin sheath.

Dr. B. Sachs, New York, asked if the loss in brain weight is greater or less than that of other organs or whether the brain simply partakes in the general deterioration of nutrition.

Dr. Donaldson said that the only element of loss studied was the amount of water which was found to be greater in amount in the diseased or poorly nourished brain. He said the whole reason for the inquiry was to show the truth or falsity of the general belief that the brain is unaffected by general disturbance of the body. The loss is more than in the skeleton but less than in the muscles. No comparisons had been made with other viscera.

Dr. E. C. Spitzka, New York, said that in the study of brains of distinguished men allowance had repeatedly been made for a decrease in weight up to 150 grams.

A Brain Tumor Localized and Completely Removed, With Symptomatology of Lesions Variously Distributed in the Parietal Lobes.

DRS. CHARLES K. MILLS and CHARLES H. FRAZIER, Philadelphia, reported the case of a woman 45 years of age, in whom the dominating focal symptoms were left lateral homonymous hemianopsia and hemiataxia, the latter especially in the upper extremities. There were slight hypesthesia, hypastereognosis and hemiparesis. The general symptoms were double optic neuritis, headache, occasional vertigo, nausea and vomiting. Some mental apathy and marked depression were present. A large parietal osteoplastic flap was raised and at the upper back part of the opening a large cyst was revealed. This was emptied and the entire sac removed. The patient made a good recovery from the operation. All focal symptoms disappeared but the hemianopsia which is gradually improving. The optic neuritis subsided slowly.

DISCUSSION.

DR. B. SACHS, New York, said that in four cases of his in which the tumor could not be located as there were no localizing symptoms, the optic neuritis was improved very much by exploratory operation. He believes in exploratory operation in such cases, where the tumor can not be localized.

DR. CHARLES E. BEEVOR, London, said that he had had a patient very much like this one on whom Victor Horsley operated. There was improvement but the hemianopsia persisted. The difference he thinks is due to the depth to which the tumor extends. If it extends deeply and destroys the optic radiations there will be no improvement in the hemianopsia.

DR. J. J. PUTNAM, Boston, reported the case of a patient with endothelioma of the cerebellum operated on with removal of the tumor and who continued to do well five years after the operation. In a case of hemianopsia in which the tumor was at the base of the brain involving the fifth nerve on both sides a decompression operation gave excellent results.

DR. M. ALLEN STARR said that he is in favor of decompression operation. He has had excellent results in two cases recently. There are cases which result in large hernias and death, but if one in ten can be saved the operation is justifiable. He agreed that brain operations should be done in one stage and that the surgeon should do everything to hasten the operation and diminish shock.

DR. THEODORE DILLER, Pittsburg, said that he also is in favor of the decompression operation. He had a patient recently who showed 7 diopters of optic neuritis. Ten days after operation the patient was completely relieved of headache and although his vision was only 5/200 before the operation, he could afterward read a typewritten page.

DR. MILLS said that he is in favor of the decompression operation, but that this case was presented, not as one of decompression but of radical cure.

DR. CHARLES H. FRAZIER, Philadelphia, said, in closing, that he quoted the statistics which place the operable tumors at 6 per cent. because he thought that the opinion of the medical profession, but that in his own case the operable tumors were from 15 to 20 per cent. He believes that if we would explore more routinely we would find the tumor oftener than we do and that we would find them earlier and thus get a greater percentage of operability.

Hysterical Insanity, With Report of Illustrative Cases.

DR. THEODORE DILLER and DR. GEORGE J. WRIGHT, Pittsburg, stated that hysteria may express itself chiefly by mental symptoms constituting a psychosis which may counterfeit the various other psychoses more or less closely; and this occurs more frequently than is commonly supposed. The recognition of hysterical insanity is important both from the prognostic and the therapeutic points of view. Inconsequential answers to which Ganser directed attention have done much to aid in the diagnosis and to create interest in the subject of hysterical insanity. Inconsequential and paradoxical conduct are often seen and are of great diagnostic value. On the negative side hysteria presents a psychosis which does not conform to the pattern of any of the ordinary insanities. The theatrical and dramatic features seen in hysteria generally are to be observed in the hysterical psychoses.

DISCUSSION.

DR. CHARLES L. DANA, New York, said that every writer has a different conception of hysteria, so that the subject is very puzzling. We could get along better if the term hysteria were dropped entirely. He does not think we will ever get a clear idea of psychoses so long as we try to establish an hysterical psychosis. He has never seen any clear-cut picture which he could qualify as belonging to this group although he has seen hysteria combined with some form of insanity.

DR. HENRY R. STEDMAN, Boston, said that if there is such a thing as hysterical psychosis, it must be based on physical stigmata. He has seen few cases of that type and thinks the term hysterical insanity is disappearing from our nomenclature.

DR. DILLER said that it is hard to define insanity and that he is unable to define hysteria. He thinks hysterical insanity is hysteria which presents such profound, prolonged exaggerated mental symptoms as to constitute the person in the ordinary practical way an insane person.

(To be continued.)

AMERICAN GYNECOLOGICAL SOCIETY.

Thirty-first Annual Meeting, held at Philadelphia, May 26-28, 1908.

(Continued from page 2102.)

The Heart in Shock.

DR. EUGENE BOISE, Grand Rapids, Mich., said it is generally conceded that the element of danger in shock is the very low blood pressure. It is also generally believed that the cause of this low blood pressure is vaso-motor paralysis. Dr. George W. Crile adopts this theory as the result of a large number of experiments. The author thinks that the conclusion of Dr. Crile is erroneous. Dr. Howell speaks of a cardiac shock in which the low blood pressure is due to cardioinhibitory exhaustion. Dr. Yandell Henderson thinks that shock is due to a deficiency of carbon dioxid in the blood, and that when death occurs suddenly in shock the heart is tetanically contracted. A series of experiments have apparently demonstrated that in shock the heart is in a state of tonic contraction, the degree of which varies with the degree of shock, and that treatment directed to the relief of this condition is the correct treatment for shock.

Pernicious Anemia in Pregnancy.

DR. PALMER FINDLEY, Omaha, reviewed the literature and then presented a clinical report of a case with the postmortem findings in both mother and child. As the result of his observations, he presented the following summary: (1) Pregnancy and the puerperium exercise a favorable influence on the development of pernicious anemia. (2) Women are more liable to pernicious anemia during pregnancy and the puerperium than at any other time. (3) There is no satisfactory explanation for the effect of pregnancy on the development of pernicious anemia. Frequent child-bearing, prolonged lactation, overwork, and malnutrition are predisposing factors. (4) There is a remarkable uniformity in the clinical phenomena and postmortem findings. (5) The onset of anemia is usually in the latter half of pregnancy. (6) The diagnosis is not possible at the onset, but is later determined by exclusion of other possible forms of anemia by blood examination, fatal termination, and finally by postmortem examination. (7) The child usually dies in utero or shortly after birth and has never been observed to show pernicious anemia. Spontaneous interruption of pregnancy is the rule. (8) In all well-established cases the disease has proved fatal.

DISCUSSION.

DR. RICHARD C. NORRIS, Philadelphia, has seen only one case of pernicious anemia in over 3,000 deliveries. The patient in this case entered the hospital shortly before she was delivered with only 12 per cent. hemoglobin. A characteristic of labor was a refusal of the patient's blood to clot. There was considerable oozing from the uterine cavity which persisted so as to require intrauterine packing and the use of adrenalin to control hemorrhage. The woman, however, finally died from this persistent oozing from the uterine cavity.

Suggestions in Teaching Gynecology.

DR. JOHN A. SAMPSON, Albany, N. Y., demonstrated special mechanical charts as an aid in this work, and said that three phases in the study of any of the clinical branches of medicine naturally suggested themselves. (1) The study of each disease as a science, namely, its cause, the changes in anatomy in its different stages, and, particularly important, the explanation of its symptomatology; (2) the classification of symptoms and the study of the various causes of each symptom and how these causes may be differentiated; (3) the art or technic of the clinical branch of medicine, namely, taking of the history, physical examination, diagnosis and treatment, and importance of clinical experience on the part of the student in the dispensaries, wards and hospitals or in private practice.

Hospital Gynecology.

DR. ROBERT L. DICKINSON, Brooklyn, N. Y., spoke of gynecology as a separate department, and described the character of hospital as affecting this. He spoke of the working adjustments between surgery and gynecology, and of the relations between assistants and house staff. He believes that there should be uniformity in technic where the operators are numerous, and thinks there should also be standard schedules of preparation, of outfit, of after care, etc. He spoke of the methods of exhibiting or guarding the histories of cases in wards, and also discussed the question of files, indexing, the inter relation of hospital and dispensary.

DR. I. S. STONE, Washington, D. C., read a paper on "Surgical Treatment of Prolapse of the Uterus and Bladder."

DR. HUGO EHRENFEST, St. Louis, Mo., contributed a paper with the title "Endometritis Exfoliativa."

Operations for Relief of Pelvic Diseases in Insane Women.

DR. LEROY BROUN, New York, described the operations performed during the last five years at the Manhattan State Hospital.

The pathologic conditions existing were alone considered; no account was taken of the mental state of the patients. The character of the mental disturbance was in the majority of instances unfavorable, in that the chance of a mental recovery was not good. Such patients, however, have an equal right to be given physical relief when needed. The patients receiving marked stimulus to mental recovery are those suffering from the form of insanity known as manic depression. The best results are obtained when operations are undertaken before the psychosis becomes a fixed habit. The character of the operation does not appear to have any relation to the mental benefit resulting.

Symposium on Intrapelvic vs. Abdominal Method of Dealing With Mechanical Obstruction to Delivery.

DR. RICHARD C. NORRIS, Philadelphia, referred to the factors to be studied before or during labor that promise spontaneous delivery or safe operative assistance. The actual test of labor should not be abandoned. He spoke of the methods and value of fetometry, of pelvimetry and of studies to determine the character of membranes, of cervix and of uterine energy. The status and methods of induction of premature labor for minor degrees of relative disproportion were described and personal statistics given. He spoke of the value and limitations of forceps and version. He referred to the circumstances which justify section of the pubic bone. Pubiotomy is preferable to symphyseotomy. The accidents of pubiotomy are best avoided by the most approved technic and by skilled operative delivery which includes complete preliminary dilatation of the birth canal.

DR. EDWARD REYNOLDS, Boston, said that: (1) In the absence of mechanical difficulties, intrapelvic methods are always preferable. (2) Throughout obstetrics a low maternal mortality is the most important of all considerations, and this should determine the choice whenever it is markedly variable as between the two methods. (3) Comparison should be made of maternal mortalities under differing conditions. (4) Similar comparison of the fetal mortalities and the maternal and fetal morbidities should also be made whenever the maternal mortalities are equal. (5) In difficult cases in which the necessity for some form of operative procedure can be safely predicted in advance the patient should be submitted to primary Cesarean section. (6) Limitations of the possibility of such prediction.

DR. EGBERT H. GRANDIN, New York, said that the operation of election in hospital practice and the ideal operation in both hospital and private practice is the elective Cesarean section by the abdomen. Careful consideration of these instances from every standpoint shows that such section, other things being equal, carries less risk to the woman. Symphyseotomy and pubiotomy, from the standpoint of the child, were considered. Under absolute indications the choice lies between embryotomy of the living fetus and abdominal Cesarean section. Both the Dührssen operation and the vaginal operation are of the emergency type, and concern not so much dystocia as conditions calling for rapid delivery, such as the acute toxemias, and very rarely placenta prævia. The Dührssen operation is alone allowable where the vaginal portion of the cervix has emerged into the lower uterine zone. The vaginal Cesarean section is alone allowable where the vaginal portion of the cervix is intact. It stands to reason that where the pelvis is too small for the given child or the child is too large for the given pelvis, both the Dührssen and the vaginal section are contraindicated, except as measures precedent to embryotomy.

DR. BARTON COOKE HIRST, Philadelphia, made a plea for conservatism in restoring Cesarean section. A large number of these operations are only justifiable in clinics to which the patients are transported without previous medical observation. The indication of labor two or four weeks before term obviates the necessity for the majority of Cesarean sections and should be resorted to more frequently.

DR. A. LAPTHORN SMITH, Montreal, said that the operation of Cesarean section has been so perfected that when performed by an experienced abdominal surgeon it has now hardly any higher death rate for mother and child than normal labor. This can not be said of prolonged application of forceps nor of even the best of the subpubic methods.

Development of the Technic of Gynecologic Operations.

DR. AUGUST MARTIN, Berlin, Germany, reviewed the work done by gynecologists in the past fifty years, and said the basis of the increasing value of gynecologic operations is the advance in anatomy, normal and pathologic, and in diagnosis. Asepsis insures surgical results. He said there are two routes discussed to-day, the abdominal and the vaginal; and he described the indications and limitations of each.

Abdominal and Vaginal Celiotomy; Their Indications and Technics.

DR. F. PFANNENSTIEL, Kiel, Germany, pointed out that either method is available for the majority of gynecologic operations. The route which gives primarily and secondarily the best chances of life and health for the patient is to be preferred. In all intraperitoneal procedures the best chances are given by abdominal celiotomy, as it affords the better opportunity for either radical or conservative work. In aseptic cases, tumors, extrauterine pregnancy, chronic inflammations, malformations, etc., the abdominal route is preferable. In septic cases, when the indications are that the infectious matter can be completely removed, the vaginal route is preferred, unless a complete view of the whole operative field and its surroundings is necessary. Except in early invasion of the cervix, all cases of cancer are better treated by the abdominal route; also when involvement of the appendix is suspected. Vaginal operation accomplishes most in all cases of prolapsus or descensus (genitoptosis) and movable retrouterine displacements. Here neither suspension nor the Alexander operation with or without colporrhaphy is permanent. Anterior and posterior vaginal celiotomy are used, sometimes the one, sometimes the other, and, if necessary, both. The author then pointed out the advantages of the Pfannenstiel transverse abdominal incision.

Vertical and Horizontal Amputation of the Uterus.

Dr. Howard A. Kelly, Baltimore, said that supravaginal hysterectomy in women under forty is too radical if it can be avoided. He spoke of subsection of the body of the uterus as being a better plan, retaining the uterine mucosa, cutting the flow down to normal, and preserving the function of mentsruation. He then described the methods of vertical and horizontal subsection of the uterus.

Cesarean Section Necessitated by Previous Ventrofixation.

Dr. Edwin B. Cragin, New York, said that for dystocia following ventrofixation to occur six times in the experience of one man, and to be so marked as absolutely to indicate Cesarean section, is sufficient evidence of the frequency of this sequel to the operation. As these fixation operations were all performed by different operators, the personal equation is eliminated. In spite of attention being called to the possibility of this unfortunate sequel to two ventrofixations, ventrosuspension is still quite frequently performed. An intended ventrosuspension may become a ventrofixation by accidental wound infection. A ventrosuspension which allowed an easy labor with a febrile puerperium in the first postoperative confinement, may become a ventrofixation and demand a Cesarean section for the next delivery, as occurred in the last of this series. During the child-bearing age, ventrofixation is not a safe operation for posterior displacement of the uterus.

Is Pubiotomy a Justifiable Operation?

Dr. J. Whitridge Williams, Baltimore, stated that in thirteen operations performed by the author or his assistants there were no maternal deaths, only one woman being seriously sick. All began to walk by the end of the third week and were dismissed in good condition less than one week later. In one-third of the cases there was permanent mobility between the cut ends of the bone. This did not interfere with locomotion, and possibly played a part in permitting subsequent spontaneous delivery in one patient. The operation is contra indicated when the true conjugate measures 7 cm. or less, and consequently does not enter into competition with Cesarean section. It is particularly applicable to the "border line" cases, as it affords a safe method of delivery after subjecting the patient to the test of several hours in the second stage, whereas the mortality of Cesarean section rises steadily with each hour elapsing after the onset of labor. If pubiotomy fulfils its present promise, it should entirely do away with the induction of premature labor in the treatment of contracted pelves.

Experimental Study of Hemorrhage and Its Possible Bearing on Ruptured Ectopic Pregnancy.

Dr. Hunter Robb, Cleveland, said that attempts were made to cause lesions in dogs which would correspond in severity to those present in cases of ruptured ectopic pregnancies in women. Assuming that in these experiments conditions were produced similar to those occurring in ruptured ectopic pregnancies in women, the results suggested the following conclusions, as being worthy of consideration: 1. A woman suffering from a ruptured ectopic pregnancy does not die from the hemorrhage itself. Death was caused by hemorrhage and shock which might be increased by various procedures. 2. An immediate operation might add shock to shock and so prevent recovery. 3. The hemorrhage ceases in from 15 to 20 minutes. The fact that the hemoglobin remained stationary showed that clotting had taken place. A hemorrhage that had ceased might be started up by manipulation of the tissues, and might thus be mistaken for a continuing hemorrhage. 4. The subcutaneous injection of salt improves the pulse and respiration and did not start the hemorrhage up again. 5. The use of bandages or proper weights by which the abdomen walls were approximated was likely to improve the condition of these patients.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held April 22, 1908.

The President, Dr. Albert M. Eaton, in the Chair.

Demonstration of the Method of Taking the Opsonic Index.

Dr. Harry A. Duncan said that the theory of immunity as advocated by Wright puts most of the emphasis on the blood serum as the active protective substance of the body, especially that element of the blood which prepares the bacteria so that the leucocytes may ingest and destroy them. To measure the degree of resistance or susceptibility possessed by some patient to any disease caused by germs all that is necessary is to compare the action of the patient's blood serum on the bacteria in question with the action of the blood serum of some healthy individual. The influence of the serum on the germ is noted by observing the number of the germs which the polymorphonuclear leucocytes find suitable for ingestion. To take the opsonic index of a patient there is needed for the test, blood serum from the patient, blood serum from a healthy individual with which to compare it, an emulsion of the bacteria in question, and leucocytes washed free of all adhering serum. The blood serums are secured by centrifuging a few drops of blood which have been collected in a small pipette known as Wright's pipette. The bacterial emulsion is obtained by rubbing up in salt solution a culture of the germ in question grown on an agar slant. The corpuscles are cleaned of all their own serum by washing them repeatedly in salt solution and a 5 per cent. solution sodium citrate. The sodium citrate prevents clotting and the centrifuge separates the corpuscles from the washing fluids. Equal quantities of the patient's serum, washed corpuscles, and bacterial emulsion are drawn up into an opsonizing pipette, mixed and incubated for fifteen minutes at blood heat to give the serum an opportunity to act on the bacteria and the corpuscles a chance to ingest them. Equal quantities of the healthy serum, washed corpuscles, and bacterial emulsion are treated likewise in another opsonizing pipette. At the end of the fifteen minutes the contents of these pipettes are expelled on clean glass slides, smeared and stained. The number of bacteria ingested in 50 corpuscles acted on by the patient's serum are counted and compared with the number ingested by 50 corpuscles influenced by the healthy serum.

DISCUSSION.

Dr. Nathaniel Bowditch Potter, New York, quoted some figures illustrating the difficulty in relying on the opsonic index. In opposition to this, however, he admits that it has some value. He believes the bacterial inoculations are useful in many instances.

Dr. Nathaniel Gildersleeve regards the opsonic index of very moderate value for diagnostic purposes, but of more value in determining the size of the dose of vaccine and in interspacing the dose.

Dr. G. Morton Illman's experience with taking the opsonic index leads him to feel that it is fairly consistent. The greatest success clinically is observed in cases of tuberculosis and in staphylococcic and streptococcic conditions.

The Microscopic Diagnosis of Diseases by Blood Smears.

Dr. L. Napoleon Boston outlined the clinical evidences of unquestionable value obtained through a microscopic study of the blood after it has been smeared on cover glasses or slides.

Given a blood smear without any further knowledge of the patient from whom it has been obtained, it is possible to make a diagnosis in but a small number of diseases, i. e., malaria, filariasis, chronic plumbism, trypanosomiasis, leukemia, chlorotic anemia, and anemias. The diseases in which such blood examination may support the further clinical study of the case in question are given as anemia with reference to the particular type, pneumonia, sepsis, trichinosis, infection with intestinal parasites, and all diseases where leukocytosis is present. It is further of service in connection with acute mania, melancholia, poisoning from both mineral and gaseous substances, and conditions resulting from malnutrition, e. g., syphilis, glandular tuberculosis, etc. A full consideration is given to those diseases where living animal parasites are to be found in the circulating blood with an outline of the laboratory study.

Dr. George W. Norris demonstrated the Jacquet cardio sphygmograph, an elaboration of the old clinical sphygmograph, capable of attachment to the wrist in the usual manner.

Medicolegal

Another Court's View of Power to Require Allowance of Physical Examination

The Court of Appeals of Maryland says, on the appeal of United Railways and Electric Co. of Baltimore City vs. Cloman, a personal injury case brought by the latter party, that the defendant company moved the court to direct the plaintiff to permit the physicians of the defendant to make a physical examination of her, and also made another motion asking the court to direct her to submit to such examination by a physician to be appointed by the court. The authorities are conflicting on the subject. It is said that there is no record in the English reports of such an order, or even of such a motion. In the federal courts it is held that the court has no power to compel a plaintiff in an action for personal injuries to submit his person to a physical examination, and it was so decided in Union Pacific R. R. Co. vs. Botsford, 141 U. S. 250. The weight of authority seems to be to the contrary in the state courts of this country, although while the power is admitted many cautions and limitations are suggested, and the general rule is that it can not be demanded as a matter of right by a defendant, but the application is addressed to the sound discretion of the trial court, which will not be interfered with by an appellate court unless such discretion was manifestly abused. That seems to this court to be the correct view.

This court can not admit that the trial court has no such power in any case, for some times it may be apparent that a plaintiff is feigning, and has not suffered such injuries as he pretends he has sustained. Instances are not unknown to courts and counsel, who have had experience in such cases, in which jurors have been imposed on, and sometimes even reputable physicians who have been called on to testify on behalf of plaintiffs have been deceived. When, therefore, the ends of justice seem to require it, there can be no valid reason why an examination should not be permitted, if seasonable application is made, and the court is satisfied that no serious physical or mental injury is likely to be done the plaintiff.

Unless consent is given by the plaintiff to have the examination made by physicians of the defendant, the safe course is for the court to name some disinterested physician or physicians to make such examination, but the court and jury ought not to be required to rely on the testimony of experts employed or produced by the plaintiff, or that of the plaintiff himself, when there is any real question about the correctness of the evidence offered by a plaintiff in reference to the extent of his injuries. The practice of permitting such an examination would have a tendency to prevent frauds which are sometimes perpetrated by dishonest plaintiffs in actions for personal injuries.

As to what is a seasonable time for such an application may depend on circumstances, but it ought ordinarily to be made before the plaintiff's case is closed, and, if allowed after that, the privilege should be given him to introduce further testimony on the subject. Generally it should be done in time to avoid unnecessary delay in the trial, unless the court is satisfied by affidavits or otherwise that the defendant is taken by surprise, and the delay is necessary for the ends of justice. It might be well to adopt the practice of requiring affidavits of counsel as to the necessity for such applications, and of course the court should be satisfied that the application is made in good faith, and not merely to affect the jury, in case of refusal to submit to the examination.

Competency as Witness of Physician Disclaiming to be an Expert.—Care of Viscera.

The Supreme Court of Missouri says that it was insisted in the homicide case of State vs. Daly, that a physician who testified as an expert witness on the part of the state, and who subjected the viscera of the deceased to a chemical analysis, was incompetent to testify as such expert because he failed in his preliminary examination, and protested against being so denominated. But the court does not agree with the contention. It says that while the witness did not claim to be an expert, and protested against being denominated such, the court thinks it was more because of modesty than lack of knowledge respecting the matters to which he testified as an expert, for he showed himself to be quite familiar with the subject then under consideration, and his testimony bore the stamp of truth and honesty. Besides, the question of whether he possessed the necessary qualifications to render him competent to testify in the character of an expert was a preliminary one to be passed on by the court after the examination of the witness. The weight of the testimony of this witness, like that of any other, was for the consideration of the jury.

What Constitutes "Serious Illness"

The United States Circuit Court says, in the case of Keiper vs. Equitable Life Assurance Society of United States, that the term, "serious illness" has been construed to mean such an illness as has, or ordinarily does have, a permanent detrimental effect on the system, or renders the risk unusually hazardous. What is to be understood by "serious illness"? If any sickness which may terminate in death, then it must embrace almost every distemper in the entire catalogue of diseases. The true construction of the language must be that the applicant has never been so seriously ill as to permanently impair his constitution, and render the risk unusually hazardous.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

June 11.

1 Modern Medicine and Surgery in the Orient. (To be continued.) J. E. Mears, Philadelphia.
2 *Modes of Infection in Tuberculosis. S. Von Ruck, Asheville, N. C.
4 Composition of Large Curds in Infants' Stools. F. B. Talbot, Boston.
5 Camphoric Acid: Its Action and Uses. M. A. Tyrode, Boston.

June 18.

6 *An Account of Dr. Louis Daniel Beauperthuy, a Pioneer in Yellow Fever Research. A. Agramonte, Havana, Cuba.
7 Suture of the Patellar Tendon. C. F. Painter, Boston.
8 Notes on X-Light. The Resistance of an X-Light Tube is not an Accurate Indication of the Degree of the Vacuum. W. Rollins, Boston.
9 Modern Medicine and Surgery in the Orient. (Concluded.) J. E. Mears, Philadelphia.

2. **Infection in Tuberculosis.**—Von Ruck holds that the tubercle bacillus is liable to be inhaled with air contaminated by infectious dust or minute sputum droplets, also that primary infection by the digestive tract undoubtedly occurs, though its frequency can not be even approximately estimated, and is more frequent in children than in adults, while the origin of tuberculosis in the abdominal cavity is less frequent than it is in the chest. He says: "It is fortunate for practical prophylaxis or treatment that the relative frequency of the different modes of infection is not of great importance."

6. **Dr. Beauperthuy and Yellow Fever Research.**—Agramonte presents documentary evidence to show that, so far back as 1854, Dr. Louis Daniel Beauperthuy attributed the propagation of yellow fever to the "striped legged mosquito." His views were published in the *Official Gazette* of Cumana, and were investigated by Dr. de Brassac on behalf of the French colonial office, who reported adversely on them. Beauper

they supposed that the mosquitoes obtained the poison from putrefying organic matter; but he recognized that they were the distributors of it, and fixed the guilt mainly on the domestic habits of the striped-legged variety.

New York Medical Journal.

June 20.

10 *New Method of Estimating the Permeability of the Pylorus and an Attempt at Testing the Pancreatic Function Directly. M. Einhorn, New York.
11 Favus, with Reports of Two Indigenous Cases. E. J. Stout, Philadelphia.
12 *Treatment of Infantile Paralysis. C. R. Keppler, New York.
13 Bothriocephalus Latus. F. Huber, New York.
14 *Cholera Infantum. L. K. Hirshberg, Baltimore.
15 Common Conjunctival and Corneal Diseases. A. J. Herzog, New York.
16 *Cause of Premature Separation of the Placenta. L. Rosenberg, Brooklyn, N. Y.
17 *Is Idiopathic Epilepsy with Associated Paralysis Due to the Action of a Germ? B. R. Le Roy, Athens, Ohio.

10. **Permeability of Pylorus.**—Einhorn describes a small bucket (resembling the beads used in testing the condition of the stomach) tied to a long string of braided silk with a mark at 75 cm. It is enclosed in a gelatine capsule and swallowed about an hour after a small meal and remains in the digestive tract about three hours, the patient fasting meanwhile. The thread is tied to the ear or otherwise fastened so that it can not go beyond the 75 cm. mark. It is then drawn slowly up, usually meeting with slight resistance on passing the pylorus. The patient swallows once when the bucket has reached the entrance of the esophagus, and it is then easily withdrawn; or the bucket may be swallowed at bedtime and withdrawn in the morning. Usually it returns filled, and its contents are withdrawn with a pipette and placed in a small porcelain dish. They are usually yellowish (from bile), neutral or faintly acid, with no free hydrochloric acid. That the bucket really gets into the duodenum may be told not only by the contents, but by *x*-ray photographs.

12. **Infantile Paralysis.**—Keppler says that during the first six weeks all these patients should be left alone in the recumbent posture. The subsequent treatment he divides into: 1, Active treatment, (*a*) by the use of pendulum machines, (*b*) by the use of massage and electricity, (*c*) by the use of hydrotherapy; 2, brace treatment; 3, operative treatment, comprising tenotomy, tendon transplantation, nerve transplantation, and arthrodesis.

14. **Cholera Infantum.**—Hirshberg says that while this term is used to cover various conditions, the most virulent and dangerous form is caused by *Bacillus dysenteriæ*, which enters the body through the stomach. The scheme of treatment is to remove bacilli and their toxin by intestinal irigation and to combat exhaustion by stimulants, and otherwise treat symptoms. Half an ounce of old brandy can be taken by a child ten months old in 24 hours. Calomel and castor oil are the cathartics of choice, but stomach lavage and colon irrigation may be needed. Drugs, except opium, resorcin, and bismuth, have been overestimated. Lime water, sodium bicarbonate, and magnesia help the vomiting. Astringents usually do harm. A dilute acid may help in the later stages. In severe prostration, mustard baths, hot packs and saline infusions may be used. Hirshberg inveighs against popular superstitions that keep up the liability, the idea that it helps a child to pass from milk diet to other food, to accustom it to "taste" every dish taken by the mother, breaking down its digestion and constitutional resistance; and the superstition that children must have something to exercise their gums on. Such a desire is merely an acquired habit. Babies begin to acquire habits within ten days after birth. The remedy lies in maternal tact and judgment.

16. **Premature Separation of Placenta.**—Rosenberg says that in the cases that have come under his notice, he has found metritis due to gonorrheal infection to be a predisposing cause, the exciting cause being some slight trauma caused by the midwife or the physician. He reports a case in support of this theory.

17. **Epilepsy.**—Le Roy has settled on one germ, a spore-bearing bacillus, normally from 1 to 3 microns in length and from one-half to two-thirds of a micron in width, as a cause of the paralysis associated with epilepsy. The micro-organism is acid-fast, motile, intensely so—in certain media—is killed when grown on agar at 194 degrees F., but when grown in media, which have a small content of the silicates of calcium and magnesium, it can not be killed with prolonged boiling of the media; specimens lived that had undergone fractional boiling of the media for over two hundred hours. Growths from this specimen, grown as follows, give peculiar results: In a faintly alkaline gelatin bouillon at 98.6 degrees F. the organism resembles, when full grown, the *Bacillus typhosus;* transplanted to agar made less alkaline, and grown at 98.6 degrees F., it resembles the *B. tetani;* transferred to a faintly acid, lime, silicate, magnesia medium, it grows to full size. The medium is then boiled and set aside for a few weeks and the germ resembles the tubercle bacillus. Washed off and placed in faintly acid gelatin medium and grown for several weeks the germ will resemble the *B. diphtheriæ.* Throughout all these changes the germ will take the stain of the micro-organism, which it simulates and can be distinguished with difficulty. Under certain conditions of growth the germ becomes ultramicroscopic in form and after weeks of culture at 98.6 degrees F. it reappears. Clinically, the author has prepared an opsonin from it which has been tested in the Ohio State Insane Asylum with good results. He promises further communications on the subject.

Medical Record.

June 20.

18 *Milk-Free Fluid Diet and Rectal Irrigations in Typhoid. A. Seibert, New York.
19 *A Milk-Free Diet in Typhoid. C. J. Strong, New York.
20 *Milk-free Fluid Diet and Rectal Irrigations in Typhoid. R. C. Kemp, New York.
21 Clinical Charts of a Case of Quartan Malaria Observed in West Africa. F. C. Wellman, Benguella, West Africa.
22 The Relation of Tuberculous Cows to Tuberculosis in Children. W. L. Stowell, New York.
23 Treatment of Diseases Due to Respiratory Catarrh. W. M. Richards, New York.
24 Injurious Habits and Practices of Childhood: Their Detection and Correction. K. H. Goldstone, Jersey City, N. J.

18. **Milk-Free Diet in Typhoid.**—Seibert has tested the following plan of treatment in St. Francis' Hospital: The stomach is washed out and two doses of calomel, 2 grains each, were given within two hours. Rectal irrigations with warm water were given, except when contraindicated by bowel hemorrhage, appendicitis, or peritonitis. Cold water only was given during first day, then strained rice, oatmeal, or barley soup, with extract of meat and egg yolk spiced. Other broths, and in case of great hunger, zwieback, were next given. Before each meal from fifteen to twenty-five drops of hydrochloric acid were given in half an ounce of water. Under this treatment, general symptoms improve, temperature falls, complications disappear or fail of development, the attack is shortened and the mortality reduced. In all, 338 cases have given a mortality of 3.1 per cent.

19. **Idem.**—Strong has tested in 17 cases, the method of Seibert, mentioned in the preceding article, and endorses Seibert's conclusions.

20. **Idem.**—Kemp discusses the milk-free treatment of typhoid of Seibert, which he considers based on sound scientific principles, and which he predicts will, in time to come, be generally recognized as the proper method.

Archives of Internal Medicine, Chicago.

May.

25 *Relation of Iodin to Structure of the Thyroid Gland. D. Marine and W. W. Williams, Cleveland, Ohio.
26 *Lymphangitis and perilymphangitis of the Liver in Their Relations to Inflammations of the Organ. H. Oertel, New York.
27 *Recent Advances in Our Knowledge of the Underlying Chemical Principles of Diabetic Acidosis. E. H. Goodman, Philadelphia.
28 Infection with Schistosoma Japonicum in a Filipino. E. R. Whitmore, Manila, P. I.
29 *Treatment of Gonococcus Arthritis by Injections of Dead Gonococci, and the Clinical Reaction which Follows the Injections. E. E. Irons, Chicago.

25. **Iodin and Thyroid.**—Marine and Williams summarize the results of their investigations as follows: 1.

Iodin is necessary for normal thyroid activity. 2. Iodin is the main index to the physiologic value of the thyroid secretion (thyreoglobulin) to the body. 3. The percentage of iodin varies with the amount of colloid in the several degrees of hyperplasia; the colloid varies inversely with the degree of thyroid hyperplasia; the iodin varies inversely with the degree of thyroid hyperplasia. 4. The colloid gland (goiter) is the quiescent or normal state of a gland which has previously been a glandular hyperplasia and obeys all the biologic laws of a normal gland. 5. In the classification of thyroid changes (excluding infections and neoplasms) four major groups must be recognized, viz.: (a) Normal glands, (b) colloid glands, (c) hyperplastic glands (all grades), (d) complications engrafted on any of the three preceding groups. 6. The ability of the thyroid glands to store iodin depends on the degree of glandular hyperplasia rather than on the form or mode of administration of iodin. 7. The optimum therapeutic effects of iodin on the thyroid gland are only obtained with doses vastly smaller than those usually employed. 8. The percentage of iodin which a thyroid may contain is variable, but the minimal percentage necessary for the maintenance of normal gland structure is constant. (9) Commercially desiccated thyroid has a constant iodin content and, therefore, has a variable physiologic activity and therapeutic value. 10. The problem of human goiter, both anatomically and chemically, should be investigated along lines similar to those adopted for the dog.

26. **Lymphangitis of Liver.**—Oertel confines himself to a consideration of the condition of the lymphatics in what are now termed "acute," "subacute," and "chronic" inflammations of the liver. He says that inflammatory conditions of the liver are associated with an exudative lymphangitis and perilymphangitis. If, in the subsidence of the inflammatory irritation, the lymphatics are cleared, and nothing stands in the way of resorption of inflammatory irritants and products, a change to the normal may take place. If, on the other hand, the lymphatics are not cleared, they form an essential factor in the establishment of a progressing inflammation in the form of an exudative and productive or pure cirrhosis of the liver. He suggests the following very broad classification for diffuse inflammations of the liver:

> 1. Degenerative exudative hepatitis, now called acute hepatitis, in cases which are characterized in varying degrees and in varying combinations by cellular exudation taking origin from the portal spaces, by lymphangitis, perilymphangitis and cholangitis, by diffuse parenchymatous and fatty degenerations of the liver cells, and by cytolysis and bile imbibition.
>
> 2. Degenerative productive hepatitis in cases which are now grouped as subacute hepatitis, and divide them into two forms: the first with a more rapid loss of substance, grossly appears more or less granular, the second with a much more gradual loss of substance has consquently a more uniform, even distribution of connective tissue and is, therefore, smooth. Both of these may be associated with either enlargement or diminution in size of the liver. They are characterized, microscopically, by a productive cellular inflammation proceeding from the portal spaces, which is peri-insular and diffuse: a produc[illegible] ...uctive pericholangitis It is further [illegible], and more or less accentuated by, [illegible] ...gular, parenchymatous and fatty dege[illegible], cytolysis, bile imbibition, and the formation of new, mature and embryonic liver cells (bile ducts).
>
> 3. Productive hepatitis, or sclerosis of the liver (which is to be preferred to cirrhosis of the liver), and this is characterized essentially by the formation of mature, peri-insular, or diffuse connective tissue formation; depending on the loss of liver substance and the distribution of connective tissue, it is either granular or smooth and goes along with enlargement or diminution in size of the organ. It further presents very slowly progressing, irregular, parenchymatous and fatty degenerations, and fatty infiltration, cystolysis, little or moderate bile imbibition, and the formation of mature and embryonic liver cells (bile ducts).

27. **Diabetic Acidosis.**—Goodman's review of recent advances in our knowledge of the underlying chemical principles of diabetic acidosis leads him to the conclusion that of the three acetone bodies, beta-oxybutyric acid, diacetic acid, and acetone, the first-named seems at present to be the cause of acidosis, not on account, however, of any specific toxic properties, but simply on acount of its excess robbing the body of its alkaline supply. Any other acid present in similar excess might have the same result. Fat, especially that containing fatty acids, is the principal source of the acetone bodies, though they may be derived from protein. The place of formation is probably the liver.

29. **Gonococcus Arthritis.**—Irons studies this subject and describes the results of injections of dead gonococci. He concludes that systemic infections by the gonococcus tend to spontaneous recovery—some cases are acute, recovery being rapid, some more chronic, lasting months or even years. His results so far seem to indicate that in certain cases of gonococcus arthritis recovery can be hastened by the injection of dead gonococci, which should be used, however, rather in conjunction with other general measures, e. g., rest, aspiration of distended joints, massage of prostate, etc. The reliability of the clinical gonococcus reaction as a diagnostic procedure can be determined only after many tests.

Annals of Surgery, Philadelphia.

May.

30 Subtemporal Decompressive Operations for the Intracranial Complications Associated with Bursting Fractures of the Skull. H. Cushing, Baltimore.
31 Osteoplastic Resection of the Skull. A. C. Wood, Philadelphia.
32 *Atlo-Occipital Dislocation. N. J. Blackwood, U. S. Navy.
33 *Fracture Through Anatomic Neck of the Humerus with Dislocation of the Head. J. B. Buchanan, Pittsburg.
34 *Treatment of Dislocation of the Shoulder Joint Complicated by Fracture of the Upper Extremity of the Humerus. J. M. Mason, Birmingham, Ala.
35 *Treatment of Epiphyseal Displacements and Fractures of the Upper Extremity of the Humerus Designed to Assure Definite Adjustment and Fixation of the Fragments. R. Whitman, New York.
36 Traumatic Subluxation of the Uterus. F. P. Vale, Washington, D. C.
37 *Occluding Pulmonary Embolism. W. Bartlett and R. L. Thompson, St. Louis.
38 *Operative Treatment of Intractable Vomiting, not Due to Pyloric Obstruction; Neuroses of the Stomach. W. Meyer, New York
39 *Value of Enterostomy and Conservative Operative Methods in the Surgical Treatment of Acute Intestinal Obstruction. C. A. Elsberg, New York.
40 Non-absorbable Suture and Ligature. O. H. Allis, Philadelphia.

32. See Abstract No. 49.

33. **Fracture of Neck of Humerus and Dislocation of Head.**—Buchanan reports this case and arrives at the following conclusions as to the mechanism involved: "It is probable that a fall on the outstretched arm or hand may cause, (1) a dislocation; that, if the body pitches forward with the hand or arm still on the ground, the force is applied in a new direction—along the line of the shaft, (2) an indentation of the neck occurs, or (3) a partial or complete separation of the head; if the body is projected further forward the force is applied in still another direction—compressing the elbow to the side, and (4) the partial cleavage of the neck is completed by a strong leverage of the arm. The treatment is: (1) Restoration of the dislocated head to the glenoid cavity by external manipulation; (2) restoration by open incision; (3) excision of the dislocated head, which seems to be the operation of choice, having been performed in 14 cases, with 2 results excellent, 6 good, 1 moderately good, and 2 deaths. That was the course adopted with success in the present case.

34. Abstracted in The Journal, Jan. 25, 1908, p. 310. The present article contains in addition some good illustrations and a tabular analysis of reported cases.

35. **Epiphyseal Displacement.**—Whitman describes the following methods based on the principle of reducing the displacement by leverage of the extremity and opposing the fragments by adjusting the attitude of the limb to conform to the separated head, or essentially in full abduction, the alignment being aided by manipulation of the inner fragment and by tension on the capsule and the surrounding muscles. The patient having been anesthetized, the adherent fragments are separated by forcible manipulation. The head is then grasped, as well as may be, by the fingers, and under traction the arm is abducted gradually to the extreme limit, the acromion serving as a fulcrum to direct the extremity of the diaphysis downward toward the epiphysis. When the fragments are in apposition the abducted arm may be drawn somewhat forward, if necessary, to assure proper adjustment. A shoulder spica is then applied, the extended arm being raised over the head by rotation of the scapula, so that one may better utilize muscular tension and the force of gravity to

fix the fragments. Two methods of bandaging are illustrated. Union is prompt.

37. Abstracted in THE JOURNAL, Jan. 18, 1908, p. 233

38. **Intractable Vomiting.**—Meyer's article is written, first, to recall to the mind of the general practitioner the fact that cases like those described clearly belong to the borderland, and that, after he has exhausted all means at his disposal a mere abdominal incision which, as a matter of course, will reveal some kinking or adhesions, is apt permanently to cure the patient; second, *to impress on the surgeon that it is un wise to refuse operation*; third, that gastroenterostomy in these cases is clearly contraindicated, in fact may result fatally. It is indicated only in cases of pyloric stenosis and for the purpose of putting at rest recurrent gastric ulcers that may have developed in the distal part of the stomach.

39. **Enterostomy in Intestinal Obstruction.**—Elsberg draws the following conclusions:

1. Operative interference for acute intestinal obstruction should very often be divided into two stages
2. Enterostomy and drainage should be the operation of choice not only in the desperate cases, but also in many patients whose condition is still a fair one
3 Prolonged search for the obstruction and its relief, in all patients excepting those in very good condition, should be delayed until the acute symptoms have been relieved by the opening and drainage of the bowel.
4. The danger of leaving behind gangrenous intestines is a small one, it is smaller than the danger from prolonged manipulations
5 When gangrenous intestine is present it is preferable to bring it outside of the abdomen and deal with it later; the obstructive symptoms being meanwhile relieved by enterostomy
6 Enterostomy, thus done, is not an "extreme, irrational and blindly advised" operation, but one that embodies a distinct therapeutic principle—alleviation of acute symptoms as the first step in the relief of a pathologic condition
7. The operation of enterostomy may permanently relieve acute intestinal obstruction
8 Fecal fistula will remain in only a small proportion of the cases in which enterostomy has been done, if the opening and drainage is made according to the Kader principle.

American Journal of Obstetrics, New York.

May.

41 *The Crime of Gynecology C W. Barrett, Chicago.
42 *Preservation of the Ovaries Entire or in Part in Supravaginal or Panhysterectomy. R Peterson, Ann Arbor, Mich.
43 *Rupture of the Uterus Through the Cesarean Cicatrix. G L Brodhead, New York.
44 Myxosarcoma of the Round Ligament. W. Krusen, Philadelphia
45 Fibroma of the Anterior Abdominal Wall. Id.
46 *Necessity for the Artificial Feeding of Infants. L Johnson, Washington, D. C.
47 *Menorrhagia and Metrorrhagia. T. Kubo, Tokio, Japan

41. This article was published in the *Chicago Medical Recorder*, April, and was abstracted in THE JOURNAL, June 6, 1908, p. 1942.

42. **Preservation of Ovaries in Hysterectomy.**—Peterson has tabulated the results in 173 cases of hysterectomy in which both ovaries were also removed in 146, and in the remaining 27 cases, part of one ovary, one ovary, or both ovaries were retained. He examines the analysis under the following heads in relation to postoperative troubles: 1, Frequency, 2, severity; 3, age; 4, kind of operation; 5, disease; 6, duration of symptoms; 7, amount of ovarian tissue retained His conclusions are as follows: At least 10 per cent of all women regularly menstruating at the time of operation will be free from the troublesome symptoms of the artificial menopause after hysterectomy with removal of the ovaries. The percentage of women with no symptoms after similar operations will be slightly more than doubled if some ovarian tissue be retained. The severity of the symptoms of the artificial menopause is much less when the ovaries are retained after hysterectomy. It is not necessarily true that the younger the woman the more she will suffer from the symptoms of the menopause after hysterectomy with removal of the ovaries. The greatest percentage of suffering occurs in women operated on between the ages of 40 and 44; therefore, the rule that ovaries should be removed from patients over 40 when hysterectomy is performed should not be followed. The frequency and severity of the artificial menopause is not influenced in any way by the kind of hysterectomy performed, whether the ovaries be removed or retained. The severity of the symptoms of the menopause is practically the same after hysterectomies with removal of the ovaries for fibroid disease of the uterus and inflammatory disease of the appendages. Retention of ovarian tissue after hysterectomy cuts short the period from which patients usually suffer from the symptoms of the artificial menopause. The greater the amount of ovarian tissue conserved, the more will the symptoms of the artificial menopause be mitigated.

43. **Rupture of Uterus Through Cesarean Cicatrix.**—Brodhead tabulates and abstracts the reports of twenty cases, including one of his own, in which rupture of the uterus has occurred through the Cesarean scar. He summarizes the results of his investigations as follows: Rupture of the uterus through the Cesarean cicatrix is of rare occurrence. With prompt operative methods the mortality is comparatively low. When pregnancy follows Cesarean section, the patient may be safely delivered again by a section in a large percentage of cases In repeating a section, labor should be anticipated by a week or fourteen days. If section is to be repeated and labor sets in prior to the time elected for operation, Cesarean section should be performed as soon as possible after the onset of labor pains. Sterilization may be done at the time of section, if the patient so desires. Suture of the laceration has proved successful, but in some instances hysterectomy will be the method of choice.

46. **Artificial Feeding of Infants.**—Johnson considers that the increasing prevalence of artificial feeding is because every year fewer women either can or will nurse their infants. The principal factors in inability to do so are (1) heredity—alcoholism in the grandparents or inability of the maternal grandmother to nurse the present mother in infancy; (2) the artificial life of the modern women. To these Johnson adds as at least a contributory, and one that physicians can help to control, the strenuous school life of girls to-day. He reminds us that in rearing a girl we are contending with a deeper and more mysterious problem than in raising a boy, and suggests the inadvisability of continuing a parallel curriculum for boys and girls from early school days through college.

47. **Menorrhagia and Metrorrhagia.**—Kubo's elaborate article hardly lends itself to abstracting. He discusses the present idea concerning the causes of "uterine hemorrhage," enumerates the causes—general or remote, and local or direct—as described by various authors, and analyzes 97 cases from his own material, the striking feature of which is a finding of normal endometrium in 56 on histologic examination. He then discusses the material furnished by hysterectomy, partial hysterectomy, or panhysterectomy, with the result that examination of 9 cases of extirpation or partial resection of the uterus did not disclose any definite point common to all to which the uterine hemorrhage could be attributed in each case.

United States Naval Medical Bulletin, Washington, D. C.

April.

48 *Treatment of Tuberculosis by the Administration of Mercury. B L Wright, U S Navy
49 *Atlo Occipital Dislocation N. J. Blackwood, U S Navy

48 ***Mercurial Treatment of Tuberculosis.***—*Wright*, observing that the pulmonary tuberculosis of syphilitics improved while they were undergoing antisyphilitic treatment, placed ten tuberculous patients on mixed treatment:

℞. Hydrargyri chloridi corrosivi . . 0|00325 gr. 1/20
Potassii iodidi .... 0|324 gr. v
Sig t. i. d. in water.

The men all improved to the point where the medicine deranged the gastrointestinal tract, when it had to be distinued. Later, Wright and Bucher used hydrargyrum succinidum in deep muscular injections. Two cases are fully reported Thirty-three cases are reserved for future publication, but of the entire number 30 patients are showing improvement by reduced pulse rate and temperature, increased appetite, lessened cough, and a gain in weight, while the other five are holding their own. Most are well advanced cases Wright concludes that they have shown: (1) The almost immediate improvement in the general condition of the patient, following the administration of mercury: the slowing of the pulse. the reduction of temperature and the gain in weight. (2) That it will cure extremely advanced tuberculous ulceration of the larynx and pharynx in a re

Iodin is necessary for normal thyroid activity. 2 Iodin is the main index to the physiologic value of the thyroid secretion (thyreoglobulin) to the body. 3 The percentage of iodin varies with the amount of colloid in the several degrees of hyperplasia; the colloid varies inversely with the degree of thyroid hyperplasia, the iodin varies inversely with the degree of thyroid hyperplasia 4 The colloid gland (goiter) is the quiescent or normal state of a gland which has previously been a glandular hyperplasia and obeys all the biologic laws of a normal gland 5 In the classification of thyroid changes (excluding infections and neoplasms) four major groups must be recognized, viz: (a) Normal glands, (b) colloid glands, (c) hyperplastic glands (all grades), (d) complications engrafted on any of the three preceding groups 6. The ability of the thyroid glands to store iodin depends on the degree of glandular hyperplasia rather than on the form or mode of administration of iodin 7. The optimum therapeutic effects of iodin on the thyroid gland are only obtained with doses vastly smaller than those usually employed. 8. The percentage of iodin which a thyroid may contain is variable, but the minimal percentage necessary for the maintenance of normal gland structure is constant (9) Commercially desiccated thyroid has a constant iodin content and, therefore, has a variable physiologic activity and therapeutic value 10 The problem of human goiter, both anatomically and chemically, should be investigated along lines similar to those adopted for the dog

26. **Lymphangitis of Liver.**—Oertel confines himself to a consideration of the condition of the lymphatics in what are now termed "acute," "subacute," and "chronic" inflammations of the liver. He says that inflammatory conditions of the liver are associated with an exudative lymphangitis and perilymphangitis. If, in the subsidence of the inflammatory irritation, the lymphatics are cleared, and nothing stands in the way of resorption of inflammatory irritants and products, a change to the normal may take place If, on the other hand, the lymphatics are not cleared, they form an essential factor in the establishment of a progressing inflammation in the form of an exudative and productive or pure cirrhosis of the liver He suggests the following very broad classification for diffuse inflammations of the liver

1 Degenerative exudative hepatitis, now called acute hepatitis in cases which are characterized in varying degrees and in varying combinations by cellular exudation taking origin from the portal spaces, by lymphangitis, perilymphangitis and cholangitis by diffuse parenchymatous and fatty degenerations of the liver cells, and by cytolysis and bile imbibition.

2 Degenerative productive hepatitis in cases which are now grouped as subacute hepatitis, and divide them into two forms the first with a more rapid loss of substance, grossly appears more or less granular, the second with a much more gradual loss of substance has consquently a more uniform, even distribution of connective tissue and is, therefore, smooth Both of these may be associated with either enlargement or diminution in size of the liver They are characterized, microscopically, by a productive cellular inflammation proceeding from the portal spaces, which is peri insular and diffuse: a productive lymphangitis and a productive pericholangitis It is further characterized in varying degree, and more or less accentuated by, more slowly progressing, irregular, parenchymatous and fatty degenerations and fatty infiltration, cytolysis, bile imbibition, and the formation of new, mature and embryonic liver cells (bile ducts).

3 Productive hepatitis, or sclerosis of the liver (which is to be preferred to cirrhosis of the liver), and this is characterized essentially by the formation of mature, peri insular, or diffuse connective tissue formation; depending on the loss of liver substance and the distribution of connective tissue, it is either granular or smooth and goes along with enlargement or diminution in size of the organ It further presents very slowly progressing, irregular, parenchymatous and fatty degenerations, and fatty infiltration, cystolysis little or moderate bile imbibition and the formation of mature and embryonic liver cells (bile ducts)

27. **Diabetic Acidosis.**—Goodman's review of recent advances in our knowledge of the underlying chemical principles of diabetic acidosis leads him to the conclusion that of the three acetone bodies, beta-oxybutyric acid, diacetic acid, and acetone, the first-named seems at present to be the cause of acidosis, not on account, however, of any specific toxic properties, but simply on acount of its excess robbing the body of its alkaline supply. Any other acid present in similar excess might have the same result Fat, especially that containing fatty acids, is the principal source of the acetone bodies, though they may be derived from protein. The place of formation is probably the liver.

29. **Gonococcus Arthritis.**—Irons studies this subject and describes the results of injections of dead gonococci. He concludes that systemic infections by the gonococcus tend to spontaneous recovery—some cases are acute, recovery being rapid, some more chronic, lasting months or even years. His results so far seem to indicate that in certain cases of gonococcus arthritis recovery can be hastened by the injection of dead gonococci, which should be used, however, rather in conjunction with other general measures, e g., rest, aspiration of distended joints, massage of prostate, etc. The reliability of the clinical gonococcus reaction as a diagnostic procedure can be determined only after many tests.

Annals of Surgery, Philadelphia.

May.

30 Subtemporal Decompressive Operations for the Intracranial Complications Associated with Bursting Fractures of the Skull H Cushing, Baltimore

31 Osteoplastic Resection of the Skull A. C. Wood, Philadelphia

32 *Atlo Occipital Dislocation N J Blackwood, U. S Navy.

33 *Fracture Through Anatomic Neck of the Humerus with Dislocation of the Head J. B Buchanan, Pittsburg

34 *Treatment of Dislocation of the Shoulder Joint Complicated by Fracture of the Upper Extremity of the Humerus J. M. Mason, Birmingham, Ala

35 *Treatment of Epiphyseal Displacements and Fractures of the Upper Extremity of the Humerus Designed to Assure Definite Adjustment and Fixation of the Fragments R Whitman, New York

36 Traumatic Subluxation of the Uterus. F. P. Vale, Washington D C

37 *Occluding Pulmonary Embolism. W. Bartlett and R L Thompson St Louis

38 *Operative Treatment of Intractable Vomiting, not Due to Pyloric Obstruction; Neuroses of the Stomach W. Meyer, New York

39 *Value of Enterostomy and Conservative Operative Methods in the Surgical Treatment of Acute Intestinal Obstruction C A Elsberg, New York.

40 Non absorbable Suture and Ligature. O. H. Allis, Philadelphia.

32 See Abstract No 49.

33 **Fracture of Neck of Humerus and Dislocation of Head.**—Buchanan reports this case and arrives at the following conclusions as to the mechanism involved: "It is probable that a fall on the outstretched arm or hand may cause, (1) a dislocation; that, if the body pitches forward with the hand or arm still on the ground, the force is applied in a new direction—along the line of the shaft, (2) an indentation of the neck occurs, or (3) a partial or complete separation of the head; if the body is projected further forward the force is applied in still another direction—compressing the elbow to the side, and (4) the partial cleavage of the neck is completed by a strong leverage of the arm. The treatment is: (1) Restoration of the dislocated head to the glenoid cavity by external manipulation; (2) restoration by open incision; (3) excision of the dislocated head, which seems to be the operation of choice, having been performed in 14 cases, with 2 results excellent, 6 good, 1 moderately good, and 2 deaths. That was the course adopted with success in the present case.

34. Abstracted in The Journal, Jan 25, 1908, p. 310. The present article contains in addition some good illustrations and a tabular analysis of reported cases.

35. **Epiphyseal Displacement.**—Whitman describes the following methods based on the principle of reducing the displacement by leverage of the extremity and opposing the fragments by adjusting the attitude of the limb to conform to the separated head, or essentially in full abduction, the alignment being aided by manipulation of the inner fragment and by tension on the capsule and the surrounding muscles. The patient having been anesthetized, the adherent fragments are separated by forcible manipulation. The head is then grasped, as well as may be, by the fingers, and under traction the arm is abducted gradually to the extreme limit, the acromion serving as a fulcrum to direct the extremity of the diaphysis downward toward the epiphysis. When the fragments are in apposition the abducted arm may be drawn somewhat forward, if necessary, to assure proper adjustment. A shoulder spica is then applied, the extended arm being raised over the head by rotation of the scapula, so that one may better utilize muscular tension and the force of gravity to

fix the fragments. Two methods of bandaging are illustrated. Union is prompt.

37. Abstracted in THE JOURNAL, Jan. 18, 1908, p. 233

38. **Intractable Vomiting.**—Meyer's article is written, first, to recall to the mind of the general practitioner the fact that cases like those described clearly belong to the borderland, and that, after he has exhausted all means at his disposal a mere abdominal incision which, as a matter of course, will reveal some kinking or adhesions, is apt permanently to cure the patient: second, to impress on the surgeon that it is unwise to refuse operation; third, that gastroenterostomy in these cases is clearly contraindicated, in fact may result fatally. It is indicated only in cases of pyloric stenosis and for the purpose of putting at rest recurrent gastric ulcers that may have developed in the distal part of the stomach.

39. **Enterostomy in Intestinal Obstruction.**—Elsberg draws the following conclusions:

1. Operative interference for acute intestinal obstruction should very often be divided into two stages.
2. Enterostomy and drainage should be the operation of choice not only in the desperate cases, but also in many patients whose condition is still a fair one.
3. Prolonged search for the obstruction and its relief, in all patients excepting those in very good condition, should be delayed until the acute symptoms have been relieved by the opening and drainage of the bowel.
4. The danger of leaving behind gangrenous intestines is a small one, it is smaller than the danger from prolonged manipulations
5. When gangrenous intestine is present it is preferable to bring it outside of the abdomen and deal with it later; the obstructive symptoms being meanwhile relieved by enterostomy.
6. Enterostomy, thus done, is not an "extreme, irrational and blindly advised" operation, but one that embodies a distinct therapeutic principle—alleviation of acute symptoms as the first step in the relief of a pathologic condition.
7. The operation of enterostomy may permanently relieve acute intestinal obstruction.
8. Fecal fistula will remain in only a small proportion of the cases in which enterostomy has been done, if the opening and drainage is made according to the Kader principle.

American Journal of Obstetrics, New York.

May.

41 *The Crime of Gynecology. C. W. Barrett, Chicago.
42 *Preservation of the Ovaries Entire or in Part in Supravaginal or Panhysterectomy. R. Peterson, Ann Arbor, Mich.
43 *Rupture of the Uterus Through the Cesarean Cicatrix. G L. Brodhead, New York.
44 Myxosarcoma of the Round Ligament. W. Krusen, Philadelphia.
45 Fibroma of the Anterior Abdominal Wall. Id.
46 *Necessity for the Artificial Feeding of Infants. L. Johnson, Washington, D. C.
47 *Menorrhagia and Metrorrhagia. T. Kubo, Tokio, Japan

41. This article was published in the *Chicago Medical Recorder*, April, and was abstracted in THE JOURNAL, June 6, 1908, p. 1942.

42. **Preservation of Ovaries in Hysterectomy.**—Peterson has tabulated the results in 173 cases of hysterectomy in which both ovaries were also removed in 146, and in the remaining 27 cases, part of one ovary, one ovary, or both ovaries were retained. He examines the analysis under the following heads in relation to postoperative troubles: 1, Frequency; 2, severity; 3, age; 4, kind of operation; 5, disease; 6, duration of symptoms; 7, amount of ovarian tissue retained. His conclusions are as follows: At least 10 per cent. of all women regularly menstruating at the time of operation will be free from the troublesome symptoms of the artificial menopause after hysterectomy with removal of the ovaries. The percentage of women with no symptoms after similar operations will be slightly more than doubled if some ovarian tissue be retained. The severity of the symptoms of the artificial menopause is much less when the ovaries are retained after hysterectomy. It is not necessarily true that the younger the woman the more she will suffer from the symptoms of the menopause after hysterectomy with removal of the ovaries. The greatest percentage of suffering occurs in women operated on between the ages of 40 and 44; therefore, the rule that ovaries should be removed from patients over 40 when hysterectomy is performed should not be followed. The frequency and severity of the artificial menopause is not influenced in any way by the kind of hysterectomy performed, whether the ovaries be removed or retained. The severity of the symptoms of the menopause is practically the same after hysterectomies with removal of the ovaries for fibroid disease of the uterus and inflammatory disease of the appendages. Retention of ovarian tissue after hysterectomy cuts short the period from which patients usually suffer from the symptoms of the artificial menopause. The greater the amount of ovarian tissue conserved, the more will the symptoms of the artificial menopause be mitigated.

43. **Rupture of Uterus Through Cesarean Cicatrix.**—Brodhead tabulates and abstracts the reports of twenty cases, including one of his own, in which rupture of the uterus has occured through the Cesarean scar. He summarizes the results of his investigations as follows: Rupture of the uterus through the Cesarean cicatrix is of rare occurrence. With prompt operative methods the mortality is comparatively low. When pregnancy follows Cesarean section, the patient may be safely delivered again by a section in a large percentage of cases. In repeating a section, labor should be anticipated by a week or fourteen days. If section is to be repeated and labor sets in prior to the time elected for operation, Cesarean section should be performed as soon as possible after the onset of labor pains. Sterilization may be done at the time of section, if the patient so desires. Suture of the laceration has proved successful, but in some instances hysterectomy will be the method of choice.

46. **Artificial Feeding of Infants.**—Johnson considers that the increasing prevalence of artificial feeding is because every year fewer women either can or will nurse their infants. The principal factors in inability to do so are (1) heredity—alcoholism in the grandparents or inability of the maternal grandmother to nurse the present mother in infancy; (2) the artificial life of the modern women. To these Johnson adds as at least a contributory, and one that physicians can help to control, the strenuous school life of girls to-day. He reminds us that in rearing a girl we are contending with a deeper and more mysterious problem than in raising a boy, and suggests the inadvisability of continuing a parallel curriculum for boys and girls from early school days through college.

47. **Menorrhagia and Metrorrhagia.**—Kubo's elaborate article hardly lends itself to abstracting. He discusses the present idea concerning the causes of "uterine hemorrhage," enumerates the causes—general or remote, and local or direct—as described by various authors, and analyzes 97 cases from his own material, the striking feature of which is a finding of normal endometrium in 56 on histologic examination. He then discusses the material furnished by hysterectomy, partial hysterectomy, or panhysterectomy, with the result that examination of 9 cases of extirpation or partial resection of the uterus did not disclose any definite point common to all to which the uterine hemorrhage could be attributed in each case.

United States Naval Medical Bulletin, Washington, D. C.

April.

48 *Treatment of Tuberculosis by the Administration of Mercury. B. L. Wright, U. S. Navy.
49 *Atlo-Occipital Dislocation. N. J. Blackwood, U. S. Navy.

48. **Mercurial Treatment of Tuberculosis.**—Wright, observing that the pulmonary tuberculosis of syphilitics improved while they were undergoing antisyphilitic treatment, placed ten tuberculous patients on mixed treatment:

℞.	Hydrargyri chloridi corrosivi......	0|00325	gr. 1/20
	Potassii iodidi	0|324	gr. v

Sig.: t. i. d. in water.

The men all improved to the point where the medicine deranged the *gastrointestinal* tract, when it had to be distinued. Later, Wright and Bucher used hydrargyrum succinidum in deep muscular injections. Two cases are fully reported. Thirty-three cases are reserved for future publication, but of the entire number 30 patients are showing improvement by reduced pulse rate and temperature, increased appetite, lessened cough, and a gain in weight, while the other five are holding their own. Most are well advanced cases. Wright concludes that they have shown: (1) The almost immediate improvement in the general condition of the patient, following the administration of mercury; the slowing of the pulse, the reduction of temperature and the gain in weight. (2) That it will cure extremely advanced tuberculous ulceration of the larynx and pharynx in a remarkably short period of time (3) That it produced marked improvement in advanced pulmonary lesions, and that it has also a decided beneficial action on tuberculous glands The patients were most carefully questioned and examined and no history or trace of syphilitic infection could be discovered. Wright, therefore, believes them to be cases of unmixed tuberculous disease

49 **Fracture Dislocation of Atlas and Axis.**—Blackwood reports this case as unique in that the patient was kept alive for 34½ hours by artificial respiration He has examined the literature of the subject exhaustively, but could find but one case similar to this as to location and character of fracture. In that case life was sustained for 3½ hours only by artificial respiration.

Archives of Pediatrics, New York.

April

50 Relation of the Bacilli Belonging to the So called Dysentery Group to the Diarrheal Affections of Infants J H M Knox, Jr Baltimore
51 Need of Greater Accuracy in Prescribing Starch in Infant Feeding M Ladd, Boston
52 Specimens and Photographs of Resected Ribs F Huber New York
53 Articular Rheumatism in an Infant J P. C Griffith Philadelphia
54 Case of Congenital Malformation of the Esophagus J Phillips, Cleveland
55 Sarcoma of the Kidney in Infancy W F Cheney San Francisco
56 *Pathology of Tuberculosis in Children J McCrae Montreal
57 Laboratory Aids to the Diagnosis of Tuberculosis in Infants and Children T H Coffin New York
58 *Channels of Communication in Tuberculosis S M Hamill, Philadelphia

56 **Tuberculosis in Children**—McCrae's experience in regard to generalized tuberculosis in children has been that the most frequent site of involvement is the lungs, which were affected in 95 per cent In more than half the cases the following organs were affected in the stated order of frequency lymph nodes, spleen liver, intestines, meninges and kidneys Tuberculoma in the brain in the author's series, was about one fourth as frequent as meningeal involvement

58 **Tuberculosis**—Hamill discusses the various forms of infection with tuberculosis Infection through the skin, respiratory infection and alimentary infection As a result of his study he draws the following conclusions

1 It is impossible to gain any knowledge as to the port of entry from either the location or the degree of development of the tuberculous lesions
2 Fetal infection is proved but not common
3 Infection through the mouth tonsils and pharynx is of frequent occurrence and may be produced by inhalation or ingestion
4 Primary inhalation infection through the lungs does occur
5 Infection through the intestinal tract is definitely proved
6 The bronchial glands and lungs may be infected through the intestinal tract as well as through the lower respiratory tract
7 The relative significance of the various modes of infection is difficult to determine on the basis of our present knowledge since it has been clearly shown that it matters not from what point the tubercle bacillus is introduced it can eventually reach the bronchial glands and lungs without leaving any evidence of its mode of entrance It is probable however, on account of the greater exposure of these portions of the body, that infection through the upper respiratory and alimentary tracts is the most common and next to this for similar reason, through the lower respiratory and intestinal tracts As to which of the latter two constitutes the more frequent channel it would seem that the nature of the exposure should prove a determining factor. If infection occurs when the bacillus is introduced with the food or carried to the lips or mouth in kissing, or by infected hands, nipples toys drinking cups or the various feeding utensils, it must also certainly be by the alimentary tract If on the other hand the bacilli laden dust or droplets are inspired they may be conveyed directly to the lungs and there produce pulmonary and bronchial gland infections

Illinois Medical Journal, Springfield.

April

59 Modern Treatment of Pulmonary Tuberculosis, the Sanatorium, Its Function and Value J W Pettit, Ottawa Ill
60 *New Method of Diagnosis and Treatment of Fistulous Tracts, Tuberculous Sinuses and Abscess Cavities E G Beck, Chicago
61 Important Points in the Treatment of Syphilis J Zeisler, Chicago
62 Memoir of Columbus Barlow M Barlow, Robinson, Ill
63 Acute Otitis Media "Earache" a Plea for Its Earlier Recognition E R Ogden Chicago
64 Acute Bronchitis and Some of Its Peculiar Phases S W Schneck Mt Carmel, Ill
65 Duty of the City Toward Insanitary Municipal Plague Spots A H Revell Chicago
66 *Therapeutics of Influenza J C Gill Chicago

60 This article was published in THE JOURNAL, March 14, 1908 p 868

66 **Influenza.**—Gill combats statements made by some medical men that no treatment is necessary or is of any special value. Besides the usual measures of ventilation, avoidance of overcrowding, proper care of colds and bronchial inflammations, nursing, etc, he begins treatment with calomel followed by a saline, then by a warm bath for diaphoresis and small quantities of cold water to relieve thirst and produce diuresis For pain he gives antipyretics Temperature above 105 F. is best combated by hydrotherapy; a tub bath, if possible, the wet pack if a trained nurse is available. and cold sponging under other circumstances For sleeplessness a warm sponge bath at night and warm applications to the spine are indicated, with hypnotics if necessary. For cough and bronchial irritation small doses of codein may be given; in the marked prostration that follows, supporting measures are indicated, such as strychnin, caffein, alcohol. As to diet, food is in the beginning always repugnant, and care, therefore, should be exercised in its administration lest from lack of assimilation distressing symptoms be aroused. Cold or acidulated water, fermented milk foods, properly prepared broths, etc. Convalescence is usually prolonged and discouraging and demands an abundance of easily digested foods and tonics, such as iron, arsenic, nux vomica, and quinin with mineral acid; also carefully regulated exercise to avoid fatigue. Massage and electricity may be useful.

Lancet-Clinic, Cincinnati.

June 6

67 Physiotherapeutic Methods in Chronic Diseases C Pope
68 *Neuroses of the Bladder R C M Lewis
69 Splint for Holding Club Foot in Position After Operation E G Abbott, Portland, Maine

June 13

70 *Tobacco and the Eyes F Dowling Cincinnati
71 *Tobacco and the Heart E W Mitchell Cincinnati
72 Tobacco and the Nerves P Zenner Cincinnati
73 Trauma in Relation to Abnormal Mentality, J O Allen Centreville, Ind
74 Excision of the Tongue for Carcinoma C E Ruth, Keokuk, Iowa.

June 20

75 Proteid Metabolism O Berghausen Cincinnati
76 Radical and Palliative Operations for Cerebral Hemorrhage A F Sterne, Indianapolis Ind
77 Instantaneous Rigor Mortis E S McKee, Cincinnati
78 When Should Physiology be Taught at College? G W. Spencer, Cleveland, Ohio

68 Abstracted in THE JOURNAL, Oct 26, 1907, p 1468.

70 **Tobacco Amblyopia.**—Dowling, as the result of investigations among tobacco users employed in tobacco factories considers tobacco amblyopia the most common of all toxic amblyopias He thinks the negroes enjoy immunity in this regard Those chiefly affected are males between 35 and 68. There is gradual but progressive loss of visual acuteness Luminous objects dazzle the sight These patients see better in the evening than in the bright daylight They complain of a glimmering mist Persistent contraction of both pupils is a common symptom Ophthalmoscopically, first redness of the optic papilla, later anemia, and finally atrophy, is found. He discusses the properties of nicotine and its action on the red blood corpuscles and the oxyhemoglobin The prognosis is good if the patient comes early under treatment—chief of which is absolute prohibition of tobacco in any form. From six to twelve weeks is necessary to effect a cure Strychnin, the physiologic antagonist of nicotin, is useful.

71 **Tobacco and the Heart**—Mitchell's conclusions are as follows

1 Many men can smoke moderately for a lifetime without manifest injury
2 Excessive smoking is always injurious sooner or later
3 What constitutes "excess" differs with the individual, some men bear tobacco so badly that they should avoid it altogether. Two cigars a day may be excess for one man while another observes no special effects from several
4 In some individuals, ill effects from smoking are not observed until many years of indulgence, when gradually, or sometimes suddenly, they realize that the customary smoke produces some irregularity palpitation, angina or other disturbance
5 In the immature, the use of tobacco in any form is highly injurious interfering with the normal development of the mental powers producing various nervous disturbances especially nervous disturbance of the heart as manifested in palpitation, arrhythmia and weakness
6 Cigarette smoking as seen in this country, is more injurious than either pipe or cigar and more difficult for the victim to abandon No doubt the principal reason for this is found in the

common habit of inhaling the smoke. The nasal cavities present an enormous surface of mucous membrane, so that in the practice of inhalation more nicotine is absorbed. In addition there is the fact that from the short, loosely packed cigarette practically all the nicotine is taken hot into the respiratory passages. In the tightly rolled cigar the smoke has more time to cool down and much of its alkaloid is deposited in the butt of the cigar. In the pipe the smoke is cooled and the nicotine deposited in the stem. Another reason why we more frequently see pernicious effects from cigarette smoking, is the fact that it is the common form of smoking in the early years of life.

7. The characteristic symptoms of tobacco heart are palpitation, irregularity, irritability, anginal pains, absence of organic murmurs, prompt recovery on abandonment of the habit. Pseudoangina pectoris is not infrequent.

Interstate Medical Journal, St. Louis.

May.

79 Roentgen Ray in the Diagnosis of Renal and Ureteral Calculi. R. D. Carman, St. Louis, Mo.
80 A Roentgenologic Discussion of Bone Lesions. E. H. Skinner, Kansas City, Mo.
81 Roentgen Ray Treatment of Leukemia. A. E. Taussig, St. Louis.
82 Use of the Roentgen Ray in Gastric Diagnosis. H. W. Soper, St. Louis.
83 Moulages or Wax Models. J. J. Houwink, St. Louis.

Bulletin of Johns Hopkins Hospital, Baltimore.

April.

84 Ophthalmovascular Choke. G. M. Gould, Philadelphia.
85 Excretion of Hexamethylenamin (Urotropin) in Bile and Pancreatic Juice. S. J. Crowe, Baltimore.
86 Satisfactory Pressure Bandage for the Leg. J. S. Davis, Baltimore.
87 Effect of Injected Leucocytes on the Development of a Tuberculous Lesion. E. L. Opie, New York.

Journal of the Kansas Medical Society, Kansas City.

May.

88 *Pathology, Symptoms and Treatment of Chronic Myocarditis. F. A. Carmichael, Goodland, Kan.
89 Surgical Treatment of Detached Retina. G. W. Maser, Parsons.
90 Rational Treatment of Pneumonia. J. D. Walthall, Paola.
91 Recent Prevalence of Smallpox in Atchison County. E. B. Knerr, Atchison.

88. **Chronic Myocarditis.**—Carmichael concludes that while many diseases, age, sex and habit, are possible, they are not essentially etiologic factors of the fibroid type. The mechanism of the changes in heart muscle is not clearly defined. Arteriosclerosis of the peripheral trunks in heart lesions may not be accepted as presumptive evidence of myocardial affection, save in cases in which endocardial complication is absolutely excluded. Even there its value is only presumptive. The mechanism of sudden death (exclusive of rupture) must be due to sudden and absolute inhibition of contractile impulse resulting in asystole. The analogy with the Stokes-Adams syndrome suggests that the same pathologic process governs both phenomena and is supported by the pathologic findings. The fibrotic changes may be considered a result of a cycle of three events: (a) Sclerosis of the coronary arteries resulting in deficient blood supply, i. e., anemia of the heart; (b) dilatation the direct result of anemia from weakening of the heart muscle; (c) fibrotic change due in part to the primary coronary arteritis and in part to the dilatation which lengthens the course and diminishes the caliber of the cardiac vessels. Fibrotic changes once established are permanent, with a tendency toward progression, uninfluenced by any known therapy, but in the earlier stages the tendency to progression may be overcome by hygiene. The symptoms are so vague that diagnosis can be merely presumptive. The use of cardiants, especially digitalis, to stimulate contraction, without lessening resistance, is irrational and tends to favor progress of the lesion. Opium, as advocated by Musser, is a most valuable remedy when disturbed compensation gives rise to nervousness and apprehension. It acts as a cardiac tonic, reduces peripheral resistance, quiets nervous tendencies, steadies respiration, allays dyspnea, and gives rest, mental and physical. Cardiac depressants, e. g., aconite and veratrum, may be used with caution in small doses if carefully watched. In some cases they give distinct benefit.

Chicago Medical Recorder.

May.

92 *Death of the Mature Fetus in Labor. H. M. Stow, Chicago.
93 Medicine of the Future. W. Parsons, Chicago.
94 Supplemental Report of a Case of Xanthoma. J. E. Rhodes, Chicago.
95 *Treatment of Gonorrheal Epididymitis. L. W. Bremerman, Chicago.
96 History of Vulvovaginitis in Children. J. D. Merrill.

92. Abstracted in The Journal, May 23, 1908, p. 1756.

95. **Gonorrheal Epididymitis.**—Bremerman applies a compound iodin ointment on gauze to the scrotum and elevates the scrotum with a bandage. The ointment is left till burning occurs when it is removed and the part cleansed with olive oil and lead ointment applied abundantly. If the prostate is also affected, he passes a metal instrument similar in size and shape to a perfecto cigar with an inlet and outlet tube at one end. This is connected with a fountain syringe so that a stream of hot or cold water can be made to pass. Internally he administers methylene blue.

American Journal of Orthopedic Surgery, Philadelphia.

April.

97 *Operation for Paralytic Calcaneo-Cavus. R. Jones, Liverpool, England.
98 Simple Method of Dealing with Volkmann's Ischemic Paralysis. Id.
99 *Fracture of the Head and Neck of the Radius. W. G. Erving, Washington, D. C.
100 Treatment of Some Types of Rheumatoid Disease by Physical Therapeutics. F. E. Peckham, Providence, R. I.
101 Place of Operative Surgery in the Treatment of Chronic Arthritis. C. F. Painter, Boston.
102 Hyperemia as a Therapeutic Agent. W. G. Turner, Montreal.
103 Simple Methods in Recording Scoliosis. E. H. Bradford, Boston.
104 Treatment of Scoliosis. Id.
105 Regeneration of Bone from Periosteum. A. Thorndike, Boston.
106 Greater Tendency to Spontaneous Correction in Bow-Leg than in Knock-Knee, and the Anatomic Reasons. J. T. Rugh, Philadelphia.
107 Cause of Flexion in Hip Disease. Id.
108 Chronic Dislocation of the Lower Jaw, with a Simple Device for Maintaining Reduction. C. Riely, Baltimore.

97. **Volkmann's Ischemic Paralysis.**—Jones has discontinued all operative measures and now uses the following simple procedure: He cuts out of zinc or sheet iron five splints, which will fit the patient's fingers when extended. An assistant flexes the wrist fully and holds it forcibly and steadily in that position; then the fingers are relaxed and each must be separately splinted. The wrist is then released and the patient is directed systematically to attempt to extend the now very contracted metacarpophalangeal range, which can be done after a few days sufficiently to admit of the application of a splint from the finger tops to the wrist joint, the wrist being fully flexed to admit of this. The fingers are therefore bound in five splints and over them the hand is fixed in a splint which reaches to the wrist. For several days the hand is exercised in the direction of extension and a splint is applied, over the other splints, extending from finger tips to elbow, and is at intervals altered so that by degrees the wrist is fully extended. For some weeks this position is maintained until all contractile elasticity is lost. The splints are then removed and the hand is massaged. By this method every structure is stretched in the order of its tension. The results are satisfactory.

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markably short period of time (3) That it produced marked improvement in advanced pulmonary lesions, and that it has also a decided beneficial action on tuberculous glands The patients were most carefully questioned and examined and no history or trace of syphilitic infection could be discovered. Wright, therefore, believes them to be cases of unmixed tuberculous disease.

49 **Fracture Dislocation of Atlas and Axis.**—Blackwood reports this case as unique in that the patient was kept alive for 34½ hours by artificial respiration He has examined the literature of the subject exhaustively, but could find but one case similar to this as to location and character of fracture In that case life was sustained for 3½ hours only by artificial respiration.

Archives of Pediatrics, New York.

April

50 Relation of the Bacilli Belonging to the So-called Dysentery Group to the Diarrheal Affections of Infants J H M Knox, Jr Baltimore
51 Need of Greater Accuracy in Prescribing Starch in Infant Feeding M Ladd, Boston
52 Specimens and Photographs of Resected Ribs F Huber New York
53 Articular Rheumatism in an Infant J P C Griffith Philadelphia
54 Case of Congenital Malformation of the Esophagus J Phillips, Cleveland
55 Sarcoma of the Kidney in Infancy W F Cheney San Francisco
56 *Pathology of Tuberculosis in Children J McCrae Montreal
57 Laboratory Aids to the Diagnosis of Tuberculosis in Infants and Children T H Coffin New York
58 *Channels of Communication in Tuberculosis S M Hamill, Philadelphia

56 **Tuberculosis in Children**—McCrae's experience in regard to generalized tuberculosis in children has been that the most frequent site of involvement is the lungs, which were affected in 95 per cent In more than half the cases the following organs were affected in the stated order of frequency lymph nodes, spleen liver, intestines, meninges and kidneys Tuberculoma in the brain in the author's series, was about one fourth as frequent as meningeal involvement

58 **Tuberculosis**—Hamill discusses the various forms of infection with tuberculosis Infection through the skin, respiratory infection and alimentary infection As a result of his study he draws the following conclusions·

1 It is impossible to gain any knowledge as to the port of entry from either the location or the degree of development of the tuberculous lesions
2 Fetal infection is proved but not common
3 Infection through the mouth tonsils and pharynx is of frequent occurrence and may be produced by inhalation or ingestion
4 Primary inhalation infection through the lungs does occur
5 Infection through the intestinal tract is definitely proved
6 The bronchial glands and lungs may be infected through the intestinal tract as well as through the lower respiratory tract
7 The relative significance of the various modes of infection is difficult to determine on the basis of our present knowledge since it has been clearly shown that it matters not from what point the tubercle bacillus is introduced it can eventually reach the bronchial glands and lungs without leaving any evidence of its mode of entrance It is probable however, on account of the greater exposure of these portions of the body, that *infection through the upper respiratory and alimentary tracts is the most common*, and next to this for similar reason, through the lower respiratory and intestinal tracts As to which of the latter two constitutes the more frequent channel it would seem that the nature of the exposure should prove a determining factor *If infection occurs when the bacillus is introduced with the food or carried to the lips or mouth in kissing, or by infected hands, nipples, toys, drinking cups or the various feeding utensils, it must also certainly be by the alimentary tract If on the other hand the bacilli laden dust or droplets are inspired they may be conveyed directly to the lungs* and there produce pulmonary and bronchial gland infections

Illinois Medical Journal, Springfield.

April

59 Modern Treatment of Pulmonary Tuberculosis, the Sanatorium; Its Function and Value J W Pettit, Ottawa Ill
60 *New Method of Diagnosis and Treatment of Fistulous Tracts, Tuberculous Sinuses and Abscess Cavities E G Beck, Chicago
61 Important Points in the Treatment of Syphilis J Zeisler, Chicago
62 Memoir of Columbus Barlow M Barlow, Robinson, Ill
63 Acute Otitis Media, "Earache," a Plea for Its Earlier Recognition E R Ogden Chicago
64 Acute Bronchitis and Some of Its Peculiar Phases S W Schneck Mt Carmel, Ill
65 Duty of the City Toward Insanitary Municipal Plague Spots A H Revell, Chicago
66 *Therapeutics of Influenza J C Gill Chicago

60. This article was published in THE JOURNAL, March 14, 1908 p 868.

66. **Influenza.**—Gill combats statements made by some medical men that no treatment is necessary or is of any special value. Besides the usual measures of ventilation, avoidance of overcrowding, proper care of colds and bronchial inflammations, nursing, etc, he begins treatment with calomel followed by a saline, then by a warm bath for diaphoresis and small quantities of cold water to relieve thirst and produce diuresis For pain he gives antipyretics. Temperature above 105 F. is best combated by hydrotherapy; a tub bath, if possible, the wet pack if a trained nurse is available. and cold sponging under other circumstances. For sleeplessness a warm sponge bath at night and warm applications to the spine are indicated, with hypnotics if necessary For cough and bronchial irritation small doses of codein may be given; in the marked prostration that follows, supporting measures are indicated, such as strychnin. caffein, alcohol As to diet, food is in the beginning always repugnant, and care, therefore, should be exercised in its administration lest from lack of assimilation distressing symptoms be aroused. Cold or acidulated water, fermented milk foods, properly prepared broths, etc. Convalescence is usually prolonged and discouraging and demands an abundance of easily digested foods and tonics, such as iron, arsenic, nux vomica. and quinin with mineral acid; also carefully regulated exercise to avoid fatigue. Massage and electricity may be useful.

Lancet-Clinic, Cincinnati.

June 6

67 Physiotherapeutic Methods in Chronic Diseases C Pope
68 *Neuroses of the Bladder R C. M Lewis
69 Splint for Holding Club Foot in Position After Operation E G Abbott, Portland, Maine

June 13

70 *Tobacco and the Eyes F Dowling, Cincinnati
71 *Tobacco and the Heart E W. Mitchell Cincinnati
72 Tobacco and the Nerves P Zenner, Cincinnati
73 Trauma in Relation to Abnormal Mentality. J O. Allen, Centreville, Ind
74 Excision of the Tongue for Carcinoma C. E Ruth, Keokuk, Iowa

June 20

75 Proteid Metabolism O Berghausen, Cincinnati
76 Radical and Palliative Operations for Cerebral Hemorrhage A E Sterne, Indianapolis Ind
77 Instantaneous Rigor Mortis E S McKee, Cincinnati
78 When Should Physiology be Taught at College? G W. Spencer, Cleveland, Ohio

68. Abstracted in THE JOURNAL, Oct 26, 1907. p 1468.

70 **Tobacco Amblyopia.**—Dowling, as the result of investigations among tobacco users employed in tobacco factories considers tobacco amblyopia the most common of all toxic amblyopias. He thinks the negroes enjoy immunity in this regard. Those chiefly affected are males between 35 and 68. There is gradual but progressive loss of visual acuteness. Luminous objects dazzle the sight These patients see better in the evening than in the bright daylight They complain of a glimmering mist Persistent contraction of both pupils is a common symptom Ophthalmoscopically, first redness of the optic papilla, later anemia, and finally atrophy, is found. He discusses the properties of nicotine and its action on the red blood corpuscles and the oxyhemoglobin The prognosis is good if the patient comes early under treatment—chief of which is absolute prohibition of tobacco in any form. From six to twelve weeks is necessary to effect a cure. Strychnin, the physiologic antagonist of nicotin, is useful

71. **Tobacco and the Heart.**—Mitchell's conclusions are as follows·

1 Many men can smoke moderately for a lifetime without manifest injury
2 Excessive smoking is always injurious sooner or later.
3 What constitutes "excess" differs with the individual; some men bear tobacco so badly that they should avoid it altogether. Two cigars a day may be excess for one man while another observes no special effects from several
4 In some individuals, ill effects from smoking are not observed until many years of indulgence, when gradually, or sometimes suddenly, they realize that the customary smoke produces some irregularity, palpitation, angina or other disturbance
5 In the immature, the use of tobacco in any form is highly injurious interfering with the normal development of the mental powers producing various nervous disturbances especially nervous disturbance of the heart as manifested in palpitation, arrhythmia and weakness
6 Cigarette smoking *as seen in this country*, is more injurious than either pipe or cigar and more difficult for the victim to abandon No doubt the principal reason for this is found in the

common habit of inhaling the smoke The nasal cavities present an enormous surface of mucous membrane, so that in the practice of inhalation more nicotine is absorbed In addition there is the fact that from the short, loosely packed cigarette practically all the nicotine is taken hot into the respiratory passages In the tightly rolled cigar the smoke has more time to cool down and much of its alkaloid is deposited in the butt of the cigar In the pipe the smoke is cooled and the nicotine deposited in the stem Another reason why we more frequently see pernicious effects from cigarette smoking, is the fact that it is the common form of smoking in the early years of life.

7 The characteristic symptoms of tobacco heart are palpitation, irregularity, irritability, anginal pains, absence of organic murmurs prompt recovery on abandonment of the habit Pseudoangina pectoris is not infrequent.

Interstate Medical Journal, St. Louis.

May

79 Roentgen Ray in the Diagnosis of Renal and Ureteral Calculi R D Carman, St. Louis, Mo
80 A Roentgenologic Discussion of Bone Lesions E H. Skinner Kansas City, Mo
81 Roentgen Ray Treatment of Leukemia A. E Taussig, St Louis
82 Use of the Roentgen Ray in Gastric Diagnosis H. W. Soper, St Louis
83 Moulages or Wax Models J. J. Houwink, St Louis.

Bulletin of Johns Hopkins Hospital, Baltimore.

April

84 [illegible] M Gould Philadelphia.
85 [illegible] (Urotropin) in Bile and Pan[illegible] Baltimore
86 Satisfactory Pressure Bandage for the Leg J. S Davis Baltimore
87 Effect of Injected Leucocytes on the Development of a Tuberculous Lesion. E. L Opie, New York

Journal of the Kansas Medical Society, Kansas City.

May.

88 *Pathology, Symptoms and Treatment of Chronic Myocarditis F A Carmichael, Goodland Kan
89 Surgical Treatment of Detached Retina G W. Maser, Parsons
90 Rational Treatment of Pneumonia J D Walthall, Paola
91 Recent Prevalence of Smallpox in Atchison County E B Kneer, Atchison

88 **Chronic Myocarditis.**—Carmichael concludes that while many diseases, age, sex and habit, are possible, they are not essentially etiologic factors of the fibroid type. The mechanism of the changes in heart muscle is not clearly defined Arteriosclerosis of the peripheral trunks in heart lesions may not be accepted as presumptive evidence of myocardial affection, save in cases in which endocardial complication is absolutely excluded. Even there its value is only presumptive The mechanism of sudden death (exclusive of rupture) must be due to sudden and absolute inhibition of contractile impulse resulting in asystole. The analogy with the Stokes-Adams syndrome suggests that the same pathologic process governs both phenomena and is supported by the pathologic findings The fibrotic changes may be considered a result of a cycle of three events: (a) Sclerosis of the coronary arteries resulting in deficient blood supply, i e., anemia of the heart; (b) dilatation the direct result of anemia from weakening of the heart muscle; (c) fibrotic change due in part to the primary coronary arteritis and in part to the dilatation which lengthens the course and diminishes the caliber of the cardiac vessels Fibrotic changes once established are permanent, with a tendency toward progression, uninfluenced by any known therapy, but in the earlier stages the tendency to progression may be overcome by hygiene. The symptoms are so vague that diagnosis can be merely presumptive The use of cardiants, especially digitalis, to stimulate contraction, without lessening resistance, is irrational and tends to favor progress of the lesion Opium, as advocated by Musser, is a most valuable remedy when disturbed compensation gives rise to nervousness and apprehension. It acts as a cardiac tonic, reduces peripheral resistance, quiets nervous tendencies, steadies respiration, allays dyspnea, and gives rest, mental and physical. Cardiac depressants, e. g., aconite and veratrum, may be used with caution in small doses if carefully watched. In some cases they give distinct benefit.

Chicago Medical Recorder.

May

92 *Death of the Mature Fetus in Labor H M Stow, Chicago
93 Medicine of the Future W Parsons Chicago
94 Supplemental Report of a Case of Xanthoma J E Rhodes, Chicago.
95 *Treatment of Gonorrheal Epididymitis L W, Bremerman, Chicago
96 History of Vulvovaginitis in Children J D. Merrill

92. Abstracted in THE JOURNAL, May 23, 1908, p. 1756

95. **Gonorrheal Epididymitis.**—Bremerman applies a compound iodin ointment on gauze to the scrotum and elevates the scrotum with a bandage. The ointment is left till burning occurs when it is removed and the part cleansed with olive oil and lead ointment applied abundantly. If the prostate is also affected, he passes a metal instrument similar in size and shape to a perfecto cigar with an inlet and outlet tube at one end. This is connected with a fountain syringe so that a stream of hot or cold water can be made to pass. Internally he administers methylene blue.

American Journal of Orthopedic Surgery, Philadelphia.

April

97 *Operation for Paralytic Calcaneo Cavus R Jones, Liverpool, England
98 Simple Method of Dealing with Volkmann's Ischemic Paralysis Id
99 *Fracture of the Head and Neck of the Radius W G Erving, Washington, D C
100 Treatment of Some Types of Rheumatoid Disease by Physical Therapeutics F E Peckham, Providence, R I
101 Place of Operative Surgery in the Treatment of Chronic Arthritis C. F Painter, Boston
102 Hyperemia as a Therapeutic Agent W G. Turner, Montreal
103 Simple Methods in Recording Scoliosis E H Bradford, Boston.
104 *Treatment of Scoliosis Id*
105 Regeneration of Bone from Periosteum A Thorndike Boston
106 Greater Tendency to Spontaneous Correction in Bow-Leg than in Knock Knee, and the Anatomic Reasons. J. T Rugh, Philadelphia
107 Cause of Flexion in Hip Disease Id
108 Chronic Dislocation of the Lower Jaw, with a Simple Device for Maintaining Reduction C Riely, Baltimore

97. **Volkmann's Ischemic Paralysis.**—Jones has discontinued all operative measures and now uses the following simple procedure: He cuts out of zinc or sheet iron five splints, which will fit the patient's fingers when extended. An assistant flexes the wrist fully and holds it forcibly and steadily *in that position; then the fingers are relaxed and each must* be separately splinted. The wrist is then released and the patient is directed systematically to attempt to extend the now very contracted metacarpophalangeal range, which can be done after a few days sufficiently to admit of the application of a splint from the finger tops to the wrist joint, the wrist being fully flexed to admit of this. The fingers are therefore bound in five splints and over them the hand is fixed in a splint which reaches to the wrist For several days the hand is exercised in the direction of extension and a splint is applied, over the other splints, extending from finger tips to elbow, and is at intervals altered so that by degrees the wrist is fully extended . For some weeks this position is maintained until all contractile elasticity is lost. The splints are then removed and the hand is massaged. By this method every structure is stretched in the order of its tension The results are satisfactory.

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types, fixation for two weeks at a right angle, followed by massage and passive movements at once; in fractures with marked or irreducible displacements and in old cases with loss of function, excision of the radial head, followed by active treatment. In long-standing cases the prognosis of excision is influenced largely by the secondary changes in the joint consequent on disuse. The fracture should always be considered of a serious nature and a grave prognosis as to future perfect function should be given in all cases with displacement, especially when treated by conservative measures alone.

St. Paul Medical Journal.

May

109 Eleven Cases of Trichinosis, Clinical History, Prognosis and Treatment. F. C. Schuldt and L. C. Bacon, St. Paul.
110 *Pathology and Diagnosis of Trichinosis, with Special Reference to Eosinophilia. S. M. White, Minneapolis.
111 Treatment of Acute Diffuse Peritonitis Following Appendicitis. O. W. Holcomb, St. Paul.
112 The Cystoscope and Its Efficiency in Diagnosis. H. P. Ritchie, St. Paul.

110. **Trichinosis.**—White describes the invasion by the parasites and the changes produced by them in man—gastroenteritis and eosinophilia. He discusses mixed infection and describes the changes in the muscle fibers and in the interstitial tissues. In diagnosis the following are of direct moment: Gastrointestinal symptoms, beginning from a few hours to two to four days after ingestion of the infected meat, early and persistent fever, myositis, edema and cutaneous phenomena, and eosinophilia, which is very characteristic. He describes the differential diagnosis between trichinosis and typhoid, influenza, subacute disseminated polymyositis, acute rheumatism and meningitis. The results of an autopsy in a fatal case are given.

Buffalo Medical Journal.

May

113 Case of Epilepsy Caused by Eyestrain. G. M. Gould, Philadelphia.
114 *Relation of Weight of Placenta to Weight of Newborn Child. W. P. Manton, Detroit.

114. **The Placenta and the Child.**—Manton publishes some investigations into the relation existing between the weight of the placenta and that of the new born child, which lead him to the conclusion that, as a rule, the development of the placenta goes forward with that of the child, and that its size (weight) may be taken ordinarily as an index to the weight development of the latter. While there may be variations in individual cases, these will not be sufficiently numerous greatly to influence the *normal* weight ratio between child and placenta, viz., as 6 + : 1.

Northwest Medicine, Seattle.

May

115 Cancer of the Gastrointestinal Tract. R. C. Coffey, Portland, Ore.
116 *What Should be the Attitude of the Physician Toward the Tuberculous Patient? F. M. Pottenger, Monrovia, Cal.
117 Why the Pierce County Medical Society Should Abolish the Fee Bill. J. J. McKone, Tacoma, Wash.

116. Abstracted in THE JOURNAL, Dec. 7, 1907, p. 1947.

Providence Medical Journal.

May

118 Malpositions of the Ulna in Colles' Fracture. F. C. Clark, Providence.
119 Treatment of Fractures of the Upper Extremity. S. N. Smith, Providence.
120 Coloproctitis. V. L. Fitzgerald, Providence.
121 Specific Therapy in Tuberculosis. J. Perkins, Providence.
122 Diagnosis and Treatment of Tuberculosis. M. J. O'Neill, Providence.

Indiana Medical Journal, Indianapolis.

May

123 Rupture of the Urethra. J. W. Sluss, Indianapolis.
124 Common Errors in the Differentiation of Rheumatism. J. A. McDonald, Indianapolis.
125 Spirochæta Pallida. B. Erdman, Indianapolis.
126 In Memoriam—Dr. Joseph Goodwin Rogers. S. E. Smith, Richmond.

Montreal Medical Journal.

April

127 Origin of the Blood Cells. O. Klotz, Montreal.
128 Excessive Length of the Sigmoid and Its Surgical Significance. J. Bell, Montreal.
129 Melanosarcoma of the Common Bile Duct Causing Complete Obstruction. C. W. Duval, Montreal.
130 Ocular Tuberculin Reaction. R. P. Campbell, H. McKee and P. G. White, Montreal.

Laryngoscope, St. Louis.

April.

131 Laryngostomy. J. Baratoux, Paris, France.
132 Fibroma of the Trachea. W. E. Sauer, St. Louis.
133 *Do We Hear Ourselves as Others Hear Us? G. Hudson-Makuen, Philadelphia.
134 Intranasal Method for Opening the Frontal Sinus Establishing the Largest Possible Drainage. R. H. Good, Chicago.
135 Plea for Conservatism in Treatment of Chronic Empyema of the Maxillary Sinus. T. W. Moore, Huntington, W. Va.
136 Dilated Veinlets on the External Nose and Septum; Their Permanent Closure with the Positive Galvanic Needle. O. T. Freer, Chicago.
137 Submucous Turbinectomy. H. V. Würdemann, Milwaukee.
138 Tongue Cases. R. H. Johnston, Baltimore.
139 Accessory Thyroid at Base of Tongue. C. E. Perkins, New York.
140 Case of Tuberculosis of the Tonsil and Administration of Potassium Iodid in Tuberculosis. N. L. Wilson, Elizabeth, N. J.
141 Cleft Palate. W. W. Carter, New York.
142 Hare Lip Operation by New Method. Id.

133. This article was published in the *Pennsylvania Medical Journal*, April, and was abstracted in THE JOURNAL, June 6, 1908, p. 1943.

Medical Library and Historical Journal, Brooklyn, N. Y.

September, 1907.

143 Brief History of Antiseptic Surgery. F. C. Clark, Providence, R. I.
144 Charles Linnaeus, M. D. J. H. Hunt, Newton, N. J.
145 Doctors of Samuel Johnson and His Court. J. P. Warbasse, Brooklyn, N. Y.
146 Medical Departments in Public Libraries. S. H. Ranck, Grand Rapids, Mich.

Medical Fortnightly, St. Louis.

May 25.

147 Glimpses of Early St. Louis Medical History. W. B. Outten, St. Louis.

Alabama Medical Journal, Birmingham.

April.

148 Historical Sketches of Organizers of the Medical Association of the State of Alabama. E. H. Sholl, Birmingham.
149 Shock; Cause and Treatment. W. W. Harper, Selma.
150 Diagnosis and Prognosis of Pulmonary Tuberculosis. J. M. Lowrey, Birmingham.
151 Home Care and Feeding of Phthisical Patients. W. C. Gewin, Birmingham.
152 State and Municipal Control of Tuberculosis. R. B. Harkness, Birmingham.
153 Management of Normal Puerperium. R. H. Hamrick, Pratt City.
154 Rectal Anesthesia. W. T. Berry, Birmingham.

May

155 Essentials and Non-Essentials of Physical Diagnosis. R. C. Cabot, Boston.
156 Epidemic of Jaundice in Talladega. D. P. Dixon, Talladega.
157 Infection of the Prostate. A. P. Toole, Birmingham.
158 Treatment of Deep Seated Gonorrheal Infections with Gonococcic Vaccines. C. W. Shropshire, Birmingham.
159 Surgical Treatment of Gastric and Duodenal Ulcers, with Report of Cases. G. Torrance, Birmingham.
160 President's Address Medical Association of State of Alabama. S. W. Welch, Talladega, Ala.
161 Importance of the Study of Physiology by the General Practitioner. W. P. McAdory, Birmingham.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

June 6

1 Dangers and Treatment of Myoma of the Uterus. C. Martin.
2 Present Knowledge Regarding Functions of Suprarenal Capsules. E. A. Schafer.
3 *Preparation and Use of Antirabic Serum, and Rabicidal Properties of Serum of Patients After Antirabic Treatment; Blood of Hydrophobia Patient. D. Semple.
4 Recent Cases of Cesarean Section. J. B. Hellier.
5 Protracted Use of Digitalis. R. E. Achert.
6 Suprarenal Hemorrhage in Infant; Relation to Hemophilia. B. G. Morison.
7 *Appendix Rupture During Operation; Meaning of the Symptoms. F. R. B. Bisshopp and J. D. Malcolm.
8 *America's Triumph in Panama: Three Years' Medical and Sanitary Record in the Canal Zone. J. G. Leigh.

3. **Antirabic Serum.**—Semple summarizes his paper as follows: By immunizing horses with fixed rabies virus it is pos-

sible to prepare a serum having well-marked rabicidal properties. Normal horse serum is devoid of these properties The rabicidal properties of this serum can be tested by mixing it with a fixed virus and subsequently using the mixture to inoculate susceptible animals, such as rabbits, subdurally The indications for the use of such a serum would seem to be an adjunct to the ordinary method of treatment in severely bitten patients and late cases. In severely bitten patients coming early for treatment it might also be injected into the wounds and the contiguous tissues. The serum of patients after undergoing a course of antirabic treatment also gives evidence of containing rabicidal substances and the presence of these substances can be demonstrated in a manner similar to that mentioned above. Normal serum is devoid of these properties. The rabicidal substances in the serum of a patient after antirabic treatment are a possible index of the amount of immunity conferred and the efficacy of treatment Prolonged treatment confers a higher degree of immunity, as judged by the rabicidal effects of the serum on fixed virus, than treatment extended over a shorter period of time. The blood of a patient suffering from hydrophobia fails to infect rabbits when inoculated subdurally. The serum of a patient in the early stages of hydrophobia is capable of prolonging the incubation period for fixed virus when mixed *in vitro* and inoculated subdurally in rabbits.

7. **Ruptured Appendix.**—Malcolm reports a case in which what was held to be an emergency operation for appendicitis was done. At the time "there was nothing to indicate that the patient's condition was a serious one, but it was considered wise to operate at once. The preliminary pain, the acute collapse, the subsequent quiescent state of the intestine, the fulness of the abdomen, and the continued resistance over the cecum, together with the absence of inflammatory symptoms and of a defined swelling led us to this decision." The appendix was found gangrenous and it ruptured during operation Malcolm comments as follows: "I have published other cases in which a similar absence of inflammation has been observed in association with gangrene formation and if we consider those cases to which the term 'explosive' or 'fulminating appendicitis' have been given, much may be said in favor of the view that the illness depends on a gangrene formation which has caused no symptoms until perforation occurred by separation of the dead part. Such cases are often characterized at first by symptoms of shock and by collapse, which are easily accounted for as the results of perforation, but not as those of an acute inflammation. The inflammatory symptoms which do arise later may often be most satisfactorily interpreted as the effects of the presence of a gangrenous patch or of the discharge of the contents of the bowel into the peritoneal sac"

8. **American Triumph in Panama.**—Commented on editorially in this issue.

British Medical Journal, London.

June 6.

9 *Cerebral Influenza R Saundby.
10 Hemiplegia with Unilateral Optic Atrophy. R T. Williamson
11 Present Knowledge Regarding Functions of Suprarenal Capsules E. A. Schafer.
12 Case of Compound Follicular Odontoma J W. Cousins
16 Plastic Resection of Breast and Its Bearing on Preliminary Cancer F. T Paul.
14 *Cancer of Mouth in Southern India; Analysis of 209 Operations A Fells
15 *Treatment of Fracture of Femur in Newborn R Jones
16 Plastic Resection of Breast and Its Bearing on Preliminary Incision of Breast Tumors C H Whiteford

9 **Cerebral Influenza.**—Saundby discusses exhaustively the literature of this subject and adds some cases of his own. Bacteriologic examination has revealed either no organism or streptococci, Pfeiffer's bacilli, or pneumococci. These cases represent not one but several conditions—a series of purely influenzal origin and in which influenza forms merely the soil in which other disease germs find the conditions favorable to their development. True cerebral influenza may cause a state of cerebral intoxication, which passes off without doing serious damage; or the poison may cause intense and fatal congestion with minute meningeal hemorrhages; or inflammation of the meninges; or finally acute hemorrhagic encephalitis associated sometimes with hemorrhage or red softening. In another category are cases of streptococcal or pneumococcal meningitis occurring after influenza and other forms of focal cerebral infection. Saundby describes the symptomatology as follows: "Usually after a short period, ranging from one to four days, during which the patient shows signs only of catarrh—and in some cases even this history may be wanting—he is seized with intense headache, with or without vomiting, or neuralgia, or an epileptic or apoplectic fit or aphasia, or there may be facial paralysis, monoplegia or hemiplegia, for the cerebral symptoms may be ushered in by any one of these symptoms There may be a preliminary period of restlessness, with or without delirium; in others stupor or unconsciousness develops gradually or suddenly. There is usually fever, varying in amount. The muscles are often rigid; stiffness of the neck, opisthotonos, and especially contraction of the masseters and trismus, have been frequently noted; there may be twitchings of the limbs or clonic spasms of the head or extremities, disturbances of vision, inequality or irregularity of the pupils, paralysis of the sphincters and *tâche cérébrale.* The reflexes are generally preserved and there has been no mention of the presence of Kernig's sign. Optic neuritis is occasionally seen: albuminuria has been generally absent, but was observed once or twice; Cheyne-Stokes breathing has been noted in a few cases." The prognosis should be guarded but not hopeless. In treatment we are comparatively powerless and must look forward hopefully to the extension of antitoxic therapy. We might try small doses of quinin as recommended by Sir William Broadbent. Feed the patient with milk or egg beaten up or with *café au lait.* Rectal enemata may be given if swallowing is difficult, or in case of relaxed sphincter, subcutaneous injection of ½ a pint to a pint of physiologic saline solution. Hypodermic injections of caffein, 5 grains (0.32), in heart collapse, or camphorated oil, 10 to 15 minims of a 1 in 10 solution.

13. **Cancer of Tongue.**—Paul has operated by Butlin's method during the years 1905-1907 in 35 cases of cancer of the tongue, with 2 deaths, both from sepsis Lately he has followed Sir James Barr's suggestion to combat this danger, viz., in patients whose condition suggests a serious risk of sepsis, a dose of polyvalent serum is given before operation. His experience of Butlin's operation is entirely favorable. In the primary operation on the tongue, however, he advocates for all but the most favorable cases, a return to Kocher's and Syme's incisions, which involve the clearance of submental and submaxillary areas at the primary operation, but leave the carotid area and what may be considered necessary of the posterior triangle, for the second operation.

14. **Cancer of the Mouth.**—Fells discusses buccal cancer on a basis of 209 operations with 6 deaths. In 58 cases the cheek was affected, in 68 the lower jaw, in 5 the upper jaw, in 18 the tongue, in 21 the lips Of preliminary measures for lessening hemorrhage the administration of calcium chlorid for two or three days before operation appeared of distinct value. A preliminary tracheotomy is valuable, especially when help is short. The large raw surfaces left in the mouth are painted with Whitehead's varnish or zinc chlorid solution. There were no subsequent lung complications and no serious septic troubles

15 **Fracture of Femur in Newborn.**—Jones has treated 26 cases of fracture of femora occurring during delivery. A newly born baby with a broken thigh requires a great deal of management, and a splint is all but useless, which is not easily and surely retained or does not allow the child to be moved, fed, or washed. He uses a Thomas' knee splint. Extension plasters are applied to the leg below the fracture and the limb is passed through the ring which encircles the thigh at the groin, and is padded over with felt, leather and impervious oilskin. The thigh is pulled, and extension is maintained by the plasters which are affixed to the lower end of the splint. A bandage is placed round the limb and no further treatment is needed than now and again to extend the limb by pulling on the plasters. The infant can be carried, nursed, left to play on the floor, without displacement of fragments. It can be applied in five minutes without an anesthetic

Medical Press and Circular, London.

June 3.

17 Infantile Marasmus G. F. Still
18 The Milk Problem, or the Production and Distribution of Pure Milk J. C. Thresh
19 Ionic Medication in Obstinate Pelvic Disease in Women. S. Sloan
20 The Cure Craze of To day R M Leslie

Clinical Journal, London.

June 3

21 Spread of Malignant Disease to the Lymphatics of the Groin. C B Lockwood
22 Prognosis and Treatment of Acute Anterior Poliomyelitis. J S R Russell.

Journal of Tropical Medicine and Hygiene, London.

June 1

23 Hydatid Disease in Western Australia J B Cleland and H. Cumpston
24 Three Cases Treated with Antistreptococcic Serum G F. Campbell

Practitioner, London.

May

25 *Vaccine Therapy and Therapeutic Immunization Sir A E. Wright
26 *The Opsonic Index, Accuracy and Errors A Fleming
27 *Opsonic Index in Infants J H Wells
28 *Experimental Error in Method of Determining Tuberculo-Opsonic Index A H White
29 *Statistical Considerations Relative to Opsonic Index M. Greenwood, Jr
30 Treatment by Bacterial Vaccines A B Harris
31 Opsonic Index in Treatment of Pulmonary Tuberculosis A C. Inman.
32 Treatment of Pulmonary Affections by Inoculation of Vaccines Controlled by Opsonic Index J C Briscoe and E U. Williams
33 *Surgical View of the Opsonic Method H S. Collier
34 Treatment of Skin Diseases by Inoculation After Opsonic Method A Whitfield
35 Treatment of Lupus and Tuberculous Disease of the Ear Nose and Throat by Inoculation H F Tod and G T Western
36 Ulcerative Endocarditis Its Treatment by Vaccine Therapy T J Horder
37 Tuberculin (T R) Treatment of Tuberculosis of Genitourinary Organs J W T Walker
38 Opsonic Method and Vaccine Therapy in Relation to Diseases of Eye R W Allen

25 **Vaccine Therapy and Immunization.**—Wright says the possibilities of vaccine therapy in the treatment of localized bacterial infections have been only very incompletely explored. After enumerating some of the problems that remain for solution in the future, Wright addresses himself to a detailed consideration of the two following questions: 1. Would it not be possible to achieve and maintain an increased output of protective substances apart from periodic measurements of the content of the blood in protective substances? Associated with this is the question as to whether the technic which we use for the determination of the opsonic index gives accurate and useful results. 2. What is the best method of directing such protective agencies as a patient may be possessed of or may acquire by immunization, to the destruction of the microbes in the focus of infection? In answer to the first question the following two suggestions have been made: 1 By clinical observations and blood testings such a knowledge of the effects of bacterial vaccines has been arrived at, as would make it possible to guarantee a good result from the inoculation of a definite quantum of a standardized vaccine. 2 The clinical symptoms of the patient will furnish to the immunizator a guide by which he may regulate the immunization procedures. The latter, again, he considers in relation to four different classes of cases, as follows (a) Localized infections of such nature that the clinical observer can immediately either see for himself or learn of every change that occurs in the focus of infection; (b) strictly localized infections where conditions are unfavorable to observations of changes in their condition; (c) acute febrile conditions; (d) cases in which all local and general symptoms are in abeyance or have returned to the condition which prevailed previous to inoculation He discusses these propositions in detail under the foregoing heads, and concludes that "while we can in many cases conduct our immunizations aright by relying on the experience gained in the past and on clinical investigation, there are whole classes of cases—these being cases where the only hope for the patient is to be found in the proper conduct of immunization procedures—where the clinical symptoms can not be trusted to furnish the necessary guide. In regard to the accessory question, as to the accuracy and usefulness of the index estimation, he answers in the affirmative With regard to the second question he considers in detail the general question of the distribution of antibacterial agents in the normal organism; the nature of the inflammatory reaction which supervenes on a bacterial invasion of the tissues, and changes in the distribution of the antibacterial agents which are effected by that reaction; cases in which microbes have survived the inflammatory reaction that has supervened on their invasion, and have established themselves in a nidus in the tissues. He then considers the therapeutic measures by which we may bring the antibacterial agencies of the circulating blood into effective operation on the microbes in a nidus of infection. These he enumerates and discusses under the following subheads: 1. Measures favoring the transfer of antibacterial agencies from the blood to the site of infection. 2. Measures opening the way for the entrance of the antibacterial element into the focus of infection. Finally he considers the organization of the profession for the work of therapeutic immunization.

26. **Accuracy of Opsonic Index.**—Fleming publishes his observations in Wright's laboratory and arrives at the following conclusions: The variation of the tuberculo-opsonic index of healthy individuals is very small, and therefore normal serum furnishes a good standard for the comparison of infected persons from day to day. With a diminution of the number of washed corpuscles in the opsonic mixture there is an increase in the amount of phagocytosis. Agglutination of the washed red corpuscles increases the amount of phagocytosis. The tuberculo-opsonic index is the same whether washed corpuscles are used from a healthy or tuberculous individual. If red corpuscles are taken up with serum the amount of phagocytosis is reduced. Serum sealed up in a capsule at room temperature retains its full power, in the case of healthy blood, for at least a week, and in the case of pathologic blood, for a day or two less. Blood capsules left widely open for several hours give very untrustworthy readings. Two practiced observers can count the same slides, and in almost all cases obtain results that do not vary 10 per cent. Duplicate estimations of the tuberculo-opsonic index of tuberculous patients can be performed, the results differing from each other by less than 20 per cent., except in rare instances (1 in 26).

27. **Opsonic Index in Infants.**—Wells, from observations on newborn babies, concludes that a low opsonic index is not diagnostic in children under 1 year old. In infants a low opsonic index is not inconsistent with health, and the child may be thriving well with a declining index. When the opsonic index is low it will rise in response to the stimulus of an inoculation with bacterial vaccine. The healthy breast-fed infant appears to possess no advantages over the healthy artificially-fed child. The anti-bacterial defense in children can not depend on the opsonic content of the serum.

28. **The Experimental Error in Opsonic Index.**—White concludes that, while imperfect mastery of details may cause a greater margin of error than will occur with one more familiar with the technic, when once these details are moderately mastered the error will be insignificant. His own experience as a beginner contrasted with his results to-day, gives a maximal experimental error ranging from 4 to 13 per cent.

29. **Statistics of Opsonics.**—Greenwood considers how far the "opsonic index" is a trustworthy guide in the diagnosis and treatment of disease, which must not be confounded with the question of therapeutic inoculations as curative or prophylactic methods. He concludes that there is no valid evidence that the limits of error do not exceed 20 per cent. of the mean value. The asymmetry of the distributions, so far examined, is so great that, in the case of low emulsions, errors in excess are more frequent than "errors" in defect of the mean. There is reason to hope (but no proof) that with high emulsions the variation may become more symmetrical. He suggests that: (a) high indices should be more closely scrutinized than low values; (b) it is better to work with tolerably thick emulsions, giving an average for the normal serum of not less than 3 bacilli to the cell

33. **Surgical View of Opsonic Method.**—Collier considers that to do the best for their patients surgeons must be clinically associated with the opsonists.

British Journal of Children's Diseases, London.

May.

39 *Congenital Hypertrophic Stenosis of the Pylorus; Criticism of Its Pathology in Relation to Treatment E Cautley
40 *Aural Manifestations of Inherited Syphilis M Yearsley.
41 Weak Nervous Children and Arsenic. E F Christin

39. **Congenital Pyloric Stenosis.**—Cautley holds that there is grave danger of ascribing to pyloric hyperplasia the symptoms due to spasm, with or without dilatation of the stomach: that there are mild degrees of hyperplasia compatible with life and giving rise to no serious symptoms; that some of these mild cases depend for their fatal issue on secondary complications which are curable by diet and lavage; that the majority of the cases tend to gradual contraction of the circular muscle and a degree of obstruction which is incompatible with life and only curable by surgical methods. He protests most strongly against delay in adopting surgical measures, as he is convinced that the bulk of the supposed cures of this affection by medical means are really instances of simply pyloric spasm. Great care is essential in distinguishing between spasm and hypertrophy, or many unnecessary operations will be performed

40. **Inherited Syphilis of Ear.**—Yearsley agrees with Hermet and Baratoux' estimate of ear affections in inherited syphilis, viz, one-third. The most important complications are those affecting the labyrinth, which is attacked in two ways, one group having the onset without vertigo, in the other vertigo being a marked feature. In the first form the pathologic condition consists chiefly in a chronic osteitis leading to gradual, more or less complete, occlusion of the cavities of the internal auditory meatus and bony labyrinth. The symptoms and pathologic findings resemble those met with in the tertiary form of acquired disease. The second group is uncommon. The symptoms are best accounted for by an increase of tension due to exudation. When acute, the pressure causes immediate destruction of the labyrinthine nerve endings; when more chronic there is a constantly recurring increase of tension This group resembles the manifestations of secondary acquired disease. The labyrinth is usually attacked between the ages of 8 and 25. Usually ear troubles follow eye troubles. The ordinary treatment of inherited syphilis does not appear to have much effect on the eye troubles. The author has found pilocarpin, given by injection in labyrinthine deafness due to both acquired and inherited syphilis a very valuable agent if used early. In a girl 11 years old, 1/12 grain, (.005) gradually increased to 1/5 grain (.012) daily, resulted in 50 per cent gain in bone conduction in a fortnight

Intercolonial Medical Journal of Australasia, Melbourne.

April

42 Constipation and Its Treatment J Jamieson
43 Hereditary Cerebellar Ataxia J. N Morris
44 Melbourne Milk Supply. T Cherry.

Journal of Laryngology, Rhinology and Otology, London.

June

45 Hemorrhage Following Quinsy; Ligation of the Common Carotid Artery; Recovery J E Newcomb
46 Clinical Pathology of Aural Discharges W Wingrave
47 Keratosis Laryngis Circumscripta, with Notes of a Case W G Porter

Obstétrique, Paris.

April, V S 1, No 2, pp. 129 288

48 Collargol in Puerperal Infection E Bonnaire and C Jeannin
49 Retrouterine Sensory Corpuscles in Human Fetus H Keiffer
50 Bronchiectasis in the Fetus (Poumon polykystique) M de Kervilly
51 *Suprarenal Capsules in Puerperal Eclampsia and Pregnancy Nephritis J. L Chirié
52 *Protracted Decalcification of Pregnancy. (Décalcification gravidique prolongée) Marquis

51. **The Suprarenal Capsules in Eclampsia and Nephritis.**—Chirié tabulates in detail the findings in respect to the suprarenals in 12 cases of puerperal eclampsia, 1 of retroplacental hemorrhage, 4 of pregnancy nephritis, 1 of pyelonephritis, 3 of pneumonia, 2 of puerperal infection, 4 of tuberculosis. These findings show the constancy of a notable hyperplasia of the cortex of the suprarenals in puerperal eclampsia, retroplacental hemorrhage and pregnancy nephritis, with considerable hyperplasia of the medulla in many instances. This hyperplasia seemed to be primary, preceding the accompanying hypertrophy of the heart and arterial hypertension.

52. **Prolonged Decalcification in Pregnancy.**—Marquis confirms Bar's assertions in regard to the loss of lime which occurs during pregnancy. It may assume pathologic proportions, revealed by the looseness of the pelvic articulations, the presence of osteophytes and tender spots on the bones, and the high percentage of lime in the blood, urine, and stools. He has recently observed a case of this decalcification commencing in pregnancy but continuing afterward. The painful laxness of the symphysis persisted and the patient was unable to walk. While in the maternity hospital she was given food containing large proportions of lime, and the decalcification was temporarily held in check.

Presse Médicale, Paris.

May 20, XVI, No 41, pp 321-328

53 Characteristics of Passive Immunity Conferred by Serum Treatment. B Weill-Hallé and H Lemaire.

May 23, No 42, pp 329 336.

54 Prophylaxis of Syphilis in the Army G H. Lemoine

May 27, No 43, pp. 337-344.

55 Spontaneous Sporotrichosis in Three Puppies Gougerot and Caraven
56 Botryomycosis in Man M. Letulle
57 *Lumbar Appendicectomy F. Legueu.

May 30, No 44, pp. 345-352

58 *Early Syphilitic Paralysis and Neuralgia. Debove.

57. **Lumbar Appendicectomy.**—Legueu mentions a few cases in which movable kidney apparently caused disturbances which were not cured by operative fixation of the kidney. Appendicectomy later banished the last disturbances. In another case the appendix was removed for two mild attacks of subacute inflammation, but nothing was done for the movable kidney. The disturbances persisting, nephropexy was done and the patient was restored to health. He advocates removing the appendix whenever there is occasion to fasten a movable kidney, and gives an illustrated description of the preferable technic.

58. **Early Syphilitic Paralysis and Neuralgia.**—Debove reports four cases. In the first and second the paralysis affected the seventh nerve with neuralgia in the fifth; in the third case there was paralysis of the seventh nerve, and in the fourth, of the third and seventh nerves with neuralgia in the fifth. These disturbances developed early in the course of syphilis, and the resemblance is striking between them and similar symptoms in tabes. He regards the process as identical in both, a reaction on the part of the meninges, acting on the roots of the nerves. Syphilitic neuralgia and paralysis are therefore signs of incipient tabes, and require energetic treatment.

Revue de Gynécologie, Paris.

January, XII, No. 1, pp 1 192

59 The Levator Ani and Prolapse of Genital Organs (Le releveur pubo vaginal et les prolapsus génitaux) G Piquand and R Hue
60 *Postoperative Menstrual Cyst Hematomata L Dartigues and J G Joannidis
61 *Fixation of Uterus Between External and Internal Os (Hystéropexie isthmique) P Delbet and J Caraven
62 *Retroperitoneal Lipomata R Proust and A Trèves

March, No 2, pp 193 384.

63 Coexistence in the Tunica Vaginalis of Uterus, Tubes and Testicles V Cornil and Brossard
64 *Nature of Hydatidiform Mole L Nattan Larrier and A. Brindeau
65 Anatomy of Kidney Pelvis and Surgical Exploration of Kidney (Anatomie du bassinet et exploration sanglante du rein) J Albarran and E Papin
66 *Primary Sarcoma of Great Omentum (Sarcomes primitifs du grand epiploon) E and R Bonamy

60. **Postoperative Menstrual Cyst Hematomata.**—Dartigues applies this term to the cysts which form on the relics of adnexa. The diagnosis is based on the pains in the hypogastrium, phenomena of general congestion in the region, and a palpable tumor—all these signs recurring with the menses and partially subsiding with them. There is danger that the cyst may rupture or suppurate or induce formation of adhesions with occlusion of the intestines. A few cases are on record, and he reports another, in which prompt operative

treatment restored the patients to health. In a few other cases intervention came too late, and the patients succumbed to septicemia.

61. **Abdominal Fixation of Uterus at the Cervix.**—Delbet and Caraven have examined recently 23 patients treated by this technic between 1896 and 1906. They give an illustrated description of their technic with summaries of the case histories. A few of the women have passed through a pregnancy since without disturbances. Abortion occurred in two cases, but the hysteropexy could not be incriminated in either instance. The absence of adhesions above the internal os allows the uterus to enlarge normally and no complications of any kind were observed. Six of the eleven women who conceived later had been sterile before the operation.

62. **Retroperitoneal Lipomata.**—Proust summarizes 89 cases from the literature. The growths are not malignant, but are liable to become dangerous from their close adhesion to adjacent viscera and their size. Extirpation has given 30 per cent. mortality on account of the necessary resection of sound organs imbedded in the growth.

64. **Nature of Hydatidiform Mole.**—In about 50 per cent. of the cases of chorioepithelioma there is a history of a preceding mole, but only about 10 per cent. of the moles on record were followed by a malignant growth. There is no means of distinguishing a harmless mole from one destined to become malignant. In a number of moles examined by Brindeau all presented the characteristics ascribed exclusively to malignant moles, and yet two of the patients remained in good health and bore healthy children later. Careful medical supervision will reveal the first symptoms of recurrence of the mole, he says. The curette will confirm or exclude the possibility of chorioepithelioma, and hysterectomy then will be in plenty of time.

66. **Sarcoma of Omentum.**—Bonamy adds another to the fifteen cases on record and summarizes the details of each. Only five of the patients survived the operation for a year or more in the twelve cases in which it was attempted. Sarcoma of the omentum is always very vascular and the operative shock is liable to be unusually severe. In only one of the cases was the growth differentiated correctly. It is generally on the median line and develops downward, pushing down the genital organs. The upper limit of the area of dulness is usually concave. The effusion in the abdominal cavity is inclined to be hemorrhagic. The course averages about a year.

Revue de Médecine, Paris.

April, XXVIII, No. 4, pp. 305-400.

67 Reactions of Surface of Lung and Pleura. (Réactions pleuracorticales.) L. Malloizel. Commenced in No. 3.
68 *Ocular Tuberculin Reaction in 300 Cases. (Ophthalmo-réaction.) E. Ausset.
69 Essential Polyuria Improved by Abstinence from Salt. (Polyurie essentielle améliorée par la déchloruration.) M. Poisot.

68. ***Ocular Tuberculin Reaction.***—Ausset has applied the test in 300 cases and considers it a harmless procedure for revealing tuberculosis in process of evolution.

Semaine Médicale, Paris.

May 20, XXVIII, No. 21, pp. 241-252.

70 Suprarenal Extract and Osteomalacia. R. de Bovis.
71 Conditions for Admission of Foreign Students into French Medical Schools.

May 27, No. 22, pp. 253-264.

72 Greek Vase with Representation of Polyclinic, 500 B. C. (Un arvballe du Ve siècle avant notre ère représentant une policlinique grecque.)
73 *Mucomembranous Non-inflammatory Affections of the Colon. (Colica mucosa.) L. Cheinisse.

73. **Colica Mucosa.**—Cheinisse reviews the literature on the subject of the secretory neurosis which Nothnagel differentiated from mucomembranous enteritis, as there is no inflammatory substratum. Opinions are contradictory in respect to the presence or absence of an anatomic basis; Cheinisse concludes that only prolonged and minute study of the case will decide whether there is inflammation or not. If the trouble is merely mucous hypersecretion of nervous origin, recurring periodically, the stools will be free from mucus in the intervals between attacks.

Archiv für Gynäkologie, Berlin.

LXXXV, No. 2, pp. 251-482.

74 Duration of Pregnancy. (Wann tritt die Geburt ein?) F. Schatz.
75 *Importance for Prognosis of Formed Elements of Blood in Puerperal Affections. E. Gräfenberg.
76 *Endotheliomata of Ovaries and Tubes. (Endotheliom des Ovariums und der Tube.) P. Kworostansky.
77 *Hemorrhage in Chronic Metritis. (Blutungen bei der sogenannten chronischen Metritis.) G. Ahreiner.
78 Primary Choreoepithelioma of the Ovary. Y. Iwase.
79 Myoma of Rectum. (Myome des Mastdarmes.) P. Becker.
80 Combination of Ovarian Carcinoma with Other Tumors. (Multiplicität der Genitaltumoren.) E. Bircher.
81 *Supernumerary Mammæ in Axillæ. (Achselhöhlenbrüste bei Wöchnerinnen.) F. Kayser.

75. **The Formed Elements in the Blood in *Prognosis of* Puerperal Affections.**—Gräfenberg has been conducting research in this line for some time, and thinks that it is important to take note of the leucocyte curve, the curve of the small lymphocytes, and, above all, of the number of nuclei. The findings are especially instructive in gonorrheal affections. He relates extensive experiences which show that the curve of the number of nuclei was constantly downward in the cases which ended fatally, while it was as constantly upward in the favorable cases.

76. **Origin of Endothelioma.**—Kworostansky relates the microscopic findings in cases of endothelioma of ovaries or tubes in connection with the case histories. They show that endothelioma develops in consequence of mechanical injury—pressure and rupture, or of chemical injury—necrosis of the tissues under pressure and absorption of the decaying tissue elements into the blood. When the reparatory process is once started it may continue beyond bounds and induce the formation of a neoplasm. The peritoneum is a favorable site for such a process. In one case there was considerable neoformation of endothelium in certain vessels of the peritoneum which had been compressed by a hematoma in the broad ligament causing an inflammatory reaction.

77. **Hemorrhage in Chronic Metritis.**—Ahreiner refers to the metritis of the parenchyma alone, the mucosa being intact, of which he relates five cases with the microscopic findings in the uteri removed on account of total prolapse or uncontrollable hemorrhage. The main cause of the hemorrhage must be sought outside of the uterus. The bleeding occurs more readily when the uterine vessels are sclerotic, but the latter alone is not able to induce hemorrhage without the general cause, inducing congestion in the region.

81. **Mammæ in the Axillæ.**—Kayser reported a few years ago cases of tumors observed in the axillæ of women. He here describes six more cases, all in puerperæ. The women were not much annoyed by the tumors although they increased in size during the menstrual periods and became large during the puerperium. He regards them as supernumerary mammæ, evidently an atavistic anomaly. He encountered these six cases in the course of eleven months; all but one of the patients were i-paræ. He has found nineteen similar cases in the literature.

Archiv für Kinderheilkunde, Stuttgart.

XLVIII, Nos. 1-2, pp. 1-160.

82 *Septic Arteritis and Aneurism in Children. (Klinische Beiträge.) A. Baginsky.
83 *Brain Tumors in Children. (Die radiologische Topik intrakranieller Tumoren im Kindesalter.) H. Klose.
84 *Relations Between Lactation and Menstruation. (Beobachtungen an stillenden Frauen.) S. Jacobius.
85 *Long Retained Capacity for Lactation in Non-nursing Mothers. Id.
86 Topography of Lymphatic Apparatus in Children and Its Clinical Importance. (Topographie des Lymphgefässapparatus im kindlichen Organismus.) A. Most.
87 The Budapest Asylum for Friendless Children (Das Budapester staatliche Kinderasyl.) F. v. Torday.
88 *Periodical Vomiting. (Das periodische Erbrechen.) J. S. Arkawin.

82. **Septic Arteritis in Children.**—Baginsky discusses the literature on aneurisms in children, and reports a case of aneurism of the abdominal aorta and subclavian artery in a girl under 8. The eye findings suggested inherited syphilis, but the symptoms indicated septic infection. Examination under chloroform revealed aneurismal enlargement of the abdominal aorta and other signs indicated streptococcus arteritis with a

tendency to enlargement in various arteries, thrombosis and obliteration of the vessels.

83. **Localization of Brain Tumors in Children.**—Klose reports a case in which a sarcoma developed in the cerebellum after two severe blows on the head. In the course of four years pronounced psychic disturbances became manifest, but there were no characteristic focal symptoms and no cerebellar ataxia. Radioscopy showed a shadow in the frontal lobe which was assumed to be cast by a tumor. No tumor was found at the operation, but the third ventricle was much enlarged, with its contents under high pressure, and this condition had been responsible for the shadow cast. He warns that this physical phenomenon in the child brain under certain conditions may simulate a tumor in the Roentgen picture. The case also teaches that internal hydrocephalus may occur early and be intense, with a tumor in the cerebellum, and may complicate the topical picture in the most deceptive manner and induce rapidly progressive mental deterioration. The trephining in the case reported did not cause any motor disturbances notwithstanding the extensive destruction of the right temporal lobe. In another case of hydrocephalus benefit was derived from repeated lumbar puncture, the boy recovering consciousness even the last time and saying that he felt better, but then he suddenly succumbed. Klose concludes his monograph with the remark that pediatrists, more than anyone else, are interested in efforts to change the present merely palliative treatment of brain tumors in children into the true causal-surgical treatment, which improved radiographic technic will immeasurably promote. Pediatrists and radiologists should work side by side in exploring this interesting borderland.

84. **Relations Between Lactation and Menstruation.**—Jacobius found 79 menstruating in 180 women examined about the sixth month after childbirth. The type of menstruation was not quite normal, but no interference with the nursing capacity was observed in any instance. The women were under constant control and prizes were given for the best "nurser." The children increased in weight, even with the most profuse menorrhagia, in nearly every instance. The majority of the children showed transient disturbance, restlessness, or a tendency to diarrhea or dyspepsia, and in a few cases they vomited the milk, but these were all transient disturbances and the children thrived.

85. **Retention of Capacity for Production of Milk by Non-Nursing Mothers.**—Jacobius has been able to have women nurse their infants, even after the child has not been nursing for several weeks, and even in women who have not nursed the infant at all after its birth, the interval ranging from three to twenty-six days. Good results were obtained with a tube fastened to an ordinary rubber nipple; which the mother could use herself, sucking the end of the tube. The infants never seemed to suffer from the composition of the milk after the long suspension.

88. **Periodical Vomiting in Children.**—Arkawin has observed four cases, in all of which the patients had neuropathic inheritance with a tendency to obstipation. The vomiting ceased when the intestinal functions were regulated.

Berliner klinische Wochenschrift.

June 1, XLV, No. 22, pp. 1041-1080.

89 *Antitryptic Power of Human Blood Serum in Cancer, etc. (Antitryptische Kraft des menschlichen Blutserums.) L. Brieger and J. Trebing.
90 *Pubiotomy. P. Kroemer.
91 Complement-Binding Substances in Urine in Syphilis. (Komplementbindende Stoffe im Harn Syphilitischer.) F. Blumenthal and U. J. Wile.
92 Edestin Test for Pepsin. W. Wolff and Z. v. Tomaszewski.
93 Bisystole—Interrupted Contraction of Left Ventricle, and Phenomena in Arteries with Aortic Valvular Insufficiency. (Ueber die diskontinuierliche, in zwei Absätze geteilte Kontraktion des linken Ventrikels des Herzens, etc.) W. Obrastzow.
94 Essential Ingredients of Breast Milk. (Zur Frage natürlichen Nutzstoffe in der Frauenmilch.) E. Müller.
95 Elimination of Pepsin in Urine. G. G. Wilenko.
96 Bacteriology and Prognosis. W. Liepmann.

89. **Antitryptic Power of Human Blood Serum.**—Brieger and Trebing found that normal blood serum contains sufficient antibodies to inhibit the digesting action of a 1 per cent. solution of trypsin on the Loeffler plate in the proportion of 1 to 3. A distinct reaction still occurs in a strength of 1 to 4, in a few cases 1 to 6. Twelve patients with diabetes examined showed a loss of inhibiting power in 7, and normal conditions in the others; about the same findings were obtained in 4 patients with tuberculosis, in 8 with non-malignant stomach affections, 6 with various other affections, and in 4 with syphilis. On the other hand, the inhibiting power of the serum was very much increased in each of 35 patients with cancer, as much as from 1 to 10 and 1 to 20 in the majority. The same findings were obtained in 8 cases suspicious of carcinoma. In 3 cases in which a cancer had been removed a year or more before, the antitryptic action approximated the normal type, as also in 6 cases of non-malignant tumors. This trypsin reaction may aid in the differentiation of carcinoma, although the reaction is not specific for cancer but merely denotes considerable inhibiting power in regard to trypsin, which is observed also in severe blood affections. The authors are now engaged in research as to the possible influence on this reaction of ingestion of trypsin.

90. **Pubiotomy.**—Kroemer reports the experiences with pubiotomy in Bumm's service at the Charité, Berlin—a total of 53 cases. Nine of the women have passed through a second pregnancy since. The results confirm the advantages of the operation; the great difficulty is the selection of the proper cases for this technic. The sawing of the bone is not the danger for the woman, but the too rapid passage of the head. Every effort must be made to have the birth proceed spontaneously, and pubiotomy should be applied only when vigorous uterine contractions give prospect of spontaneous delivery. Complications, such as prolapse of the cord, stricture of the soft parts, infection and eclampsia, contraindicate pubiotomy. Recent examination of 34 of the women shows them free from disturbances in gait, and with unimpaired earning capacity. The cicatrix in the bone seems to be permanently flexible in all but five women. This allowed the pelvis to enlarge spontaneously in all but one of the 9 childbirths later. He thinks that these pelvis-enlarging operations will tend to reduce the number of obstetric operations. Relying on pubiotomy, the natural forces can be utilized to their last possibility.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena.

May 7, XI, No. 8, pp. 289-320.

97 *Occult Blood in Stools and Stomach Content and Its Importance for the Early Diagnosis of Organic Gastrointestinal Affections. (Nachweis geringer Blutmengen in den Fäces und im Mageninhalt.) L. Isler. Collective Review.

May 22, No. 9, pp. 321-368.

98 *Operative Treatment of Emphysema of the Lung. L. Müller.

97. **Occult Blood in Stools and Stomach Content in Diagnosis of Cancer.**—Isler reviews forty-eight articles that have been published in Germany on this subject since Boas first called attention to the diagnostic importance of invisible blood in the feces. Invisible hemorrhage never occurs, it seems, in purely nervous stomach affections, but may be found in case of insufficiency of the stomach, due to cancer or non-malignant stenosis. The constant positive blood reaction in the stools, with still good motor functioning on the part of the stomach, no free hydrochloric acid and no lactic acid, is presumptive of the presence of cancer.

98. **Operative Treatment of Emphysema of the Lung.**—Müller has found only eleven articles on this subject, although Freund's first communication was published exactly fifty years ago. Good results have been obtained in the few cases adapted for the operation in which it has been done, as has been already mentioned in these columns.

Deutsches Archiv für klinische Medizin, Leipsic.

May 20, XCIII, No. 3, pp. 223-330.

99 Ferricyanid Method for Determining Presence of Gas in Blood for Clinical Purposes. (Ferricyanidmethode zur Blutgasbestimmung.) J. Barcroft and P. Morawitz.
100 *Experimental Research on Reaction to Tuberculin. H. Bahrdt.
101 Epidemic Cerebrospinal Meningitis. (Zur Lehre von der übertragbaren Genickstarre.) W. Ebstein.
102 Influence of Phosphorus Intoxication on Formed Elements of Blood. (Einfluss der Phosphorvergiftung auf die morphologischen Elemente des Blutes.) T. Pisarski.

103 Influence of Human Blood Sera on Proteolytic Leucocyte Ferment and Diagnostic Importance of Such Antiferment Action C Klieneberger and H Scholz
104 Experimental Study of Blood Pressure and Influence of Food in Chronic Nephritis (Verhalten des Blutdruckes bei chronischer Nephritis) J. Brodzki.

100. **Experimental Research on Reaction to Tuberculin.**—Bahrdt reports among other findings that the reaction to tuberculin becomes less pronounced if part of the tuberculous process is excised This seems to prove that the tuberculous focus is an important factor in the reaction.

Deutsche medizinische Wochenschrift, Berlin.

May 21, XXXIV, No 21, pp 905-952.

105 *Diagnosis and Treatment of Psychoses in Children. (Kindliche Seelenstorungen) Raecke
106 Indications for Abortion on Account of Morbid Dread of Labor. (Indikationsstellung für den kunstlichen Abort wegen psychischer Krankheit) M Friedmann. Commenced in No 20
107 *Parabiosis and Pancreatic Diabetes. J Forschbach
108 *Two Cases of Lung Affections Following an Accident. (Lungenerkrankung im Anschluss an einen Unfall) W. Baumann and F M Groedel
109 Prognosis and Treatment of Periappendicitis and Para-appendicitis Gebele
110 Acute Staphylococcus Glossitis A D. Pawlowsky
111 *Quinin in Syphilis H Napp
112 Efficacy of Roentgen Treatment for Nail Affections. (Behandlung kranker Nagel mit Rontgenstrahlen) C Schindler
113 Dosage of Roentgen Rays (Benutzung des Milliampèremeters und der parallelen Funkenstrecke bei der Dosierung der Rontgenstrahlen) H. E Schmidt.

May 28, No 22, pp 953-992

114 *Early Operation in Severe Acute Cholecystitis. Riedel
115 *Prostatectomy at Two Sittings Under Local Anesthesia Lanz
116 Treatment of Congenital Pseudarthrosis of Leg. (Behandlung der angeborenen Unterschenkelpseudarthrose) L Rauenbusch
117 Shoe for Flat Foot (Spezieller Plattfussstiefel) C Lengfellner.

105 **Diagnosis and Treatment of Psychoses in Children.**—Raecke discusses catatonia, melancholia and other psychoses as occurring in children Catatonia has been observed before the age of 7, but generally does not appear until after the eleventh year. He regards it as the most important psychosis of childhood External causes play only a subordinate rôle in its development; in most cases there is an inherited nervous taint The preliminary stage of depression may be mistaken for melancholia at first. Treatment of all acquired psychoses in children is symptomatic. The little patient should be kept in bed with strict supervision Serious attempts at suicide are not rare among such children Excitement is best combated by prolonged warm baths and warm wet packs. The food should be light, nourishing and given at short intervals with the stomach tube, if necessary. It is important to keep constant control of the weight with the scales. After recovery, rest and freedom from excitement must be ensured and a healthful and non-strenuous occupation selected in later life.

107. **Pancreatic Diabetes and Parabiosis.**—Forschbach refers to Sauerbruch's recent reports on parabiosis, as he calls the union of living animals by a permanent organic joining of the abdominal cavities. He has thus united an animal with diabetes following removal of the pancreas with another healthy animal. By the parabiosis the tendency to diabetes of the pancreatectomized animal was reduced or entirely abolished.

108. **Lung Affections Following Trauma.**—Baumann and Groedel relate the history of a case of "contusion pneumonia" in a young man. In a second case the Roentgen findings indicated the same, but autopsy disclosed that there had been no pneumonia The apex was compressed by a large epipleural hematoma, and the first rib was fractured. The injury was received while wrestling, and the young man complained that something had broken in his right shoulder. The pains were ascribed to rheumatism by a physician, and the patient returned to work for a time. The hematoma simulated infiltration of the apex in the Roentgen picture and it also concealed the fracture of the rib.

111. **Quinin in Syphilis.**—Napp first tests the tolerance of the patients for quinin for two or three days, and then makes an intravenous injection of quinin, injecting from 0.5 to 0.8 gm. (7½ to 12 grains) for two days and then every second day. He follows Lenzmann's technic and is convinced that this treatment of syphilis has a promising future. He has applied it in twenty-two cases as he relates in detail, the results confirming the efficacy of quinin alone without specific local measures. The by-effects were slight and had all vanished in two minutes after the injection. None of the patients experienced any by-effects in the ears, although they always had them when quinin was taken by the mouth.

114 **Early Operation in Severe Acute Cholecystitis.**—Riedel calls attention to the unreliability of statistics in regard to the mortality of gallstone affections When physicians are accustomed to refer all patients with inflammatory abdominal processes promptly to the surgeon, acute cholecystitis is seen to be a severe and threatening affection in a large proportion of cases. When the gall bladder is distended it should be removed, he says, before it bursts, or before a concrement in the neck of the bladder or in the cystic duct is forced into the common bile duct. Mild cholecystitis should be treated conservatively until the diagnosis is certain. If the general condition is good, an operation should then be proposed, as severe cholecystitis may develop any day. Out of 111 patients seen in 1905-6, not less than 6 were moribund when first seen, and 2 others were on the verge of perforation—all were suddenly developing acute cases. He thinks that the lessons learned from appendicitis apply also to cholecystitis.

115. **Prostatectomy Under Local Anesthesia.**—Lanz comments on the precarious condition of many patients with hypertrophy of the prostate. In 80 cases in his practice two of the patients died the night before the proposed operation The slightest intervention in such cases is liable to be fatal. He regards perineal prostatectomy as altogether too severe an operation, and for two years has been using exclusively the transvesical technic, as much safer and quicker. General anesthesia is contraindicated in these old, more or less septic patients with their tendency to pneumonia. Lumbar anesthesia has rendered good service in twelve cases, but even this is liable to injure the kidneys, and he has lately found that the operation can be done with local anesthesia alone. In nine cases the suprapubic cystotomy was done under infiltration anesthesia with a 1 per cent. solution of cocain with a few drops of suprarenal extract. The prostate was easily shelled out without any further anesthetization; he was surprised at the absence of pain. Two other patients were so debilitated that he performed the operation in two sittings. The prostate was shelled out without any anesthetic, two days after the cystotomy, in one case; in the other the enucleation was not done for a week after the cystotomy. The patients complained only of the pressure of the surgeon's hand on the symphysis; there was no actual pain in the bladder or rectum. He gives a little brandy before the operation, and suggests that possibly the pronounced uremic condition may have cooperated in inducing this remarkable tolerance. In any event, the enucleation of the prostate could be rendered painless by an opium suppository in the rectum with local application of cocain, injected under control of the forefinger in the bladder. He would not advise operating at two sittings in ordinary cases, but only in the exceptional cases which are still considered as beyond relief or burden the conscience and throw discredit on the statistics of operations. He denounces in vigorous terms the use of the catheter, comparing it to probing a wound; the catheter signifies as a rule the end or the beginning *of the end* Instead of using the catheter in cases of enlarged prostate he advocates transvesical prostatectomy as the routine procedure. Without general anesthesia it is no more dangerous than the use of the catheter, while it has the advantage of permanently curing the patient.

Fortschritte der Medizin, Leipsic.

May 20, XXVI, No 14, pp 417-446.

121 Treatment of Phlyctenular Ophthalmia. (Zur Phlyktänenbehandlung) Reh.

Jahrbuch für Kinderheilkunde, Berlin.

May 1, LXVII, No 5, pp 513-640

122 Influence of the Various Causes of Death on the Infantile Mortality in Norway. (Säuglingssterblichkeit Norwegens.) A. Johannessen.

123 *Causes of Greater Consumption of Matter in Childhood. (Ursachen des grösseren Stoffverbrauches im Kindesalter.) M. Kassowitz.
124 Atelectasis (Lungenatelektase.) J. Pelser.

123. **Causes of Greater Consumption of Matter in Childhood.**—Kassowitz has been making an extensive study of metabolism and catabolism in children in comparison with adults. He shows that the consumption of matter is influenced by various causes, and that the growth of the children is not such a preponderating factor as generally assumed. Among the other causes are the thermostatic function and the fact that each organism consists of two components, which are entirely distinct: the living, assimilating protoplasm and the non-vital elements and reserve substances. In the young the protoplasm preponderates, but with advancing years the metaplasm—the cellulose, starch, wood fiber, fat, silicates and other organic and inorganic deposits in plants, connective tissue, cartilage and elastic fibers, fat, lime and other organic and inorganic deposits in animals. This fact is sufficient to explain the active metabolism in young individuals aside from other considerations.

Medizinische Klinik, Berlin.

May 24, IV, No. 21, pp. 773-816.

125 Nutrition and Metabolism of Eye. (Ernährung und Stoffwechsel des Auges.) K. Wessely.
126 *Apparent Enlargement of Heart. (Scheinbare Vergrösserung des Herzens.) M. Herz.
127 *Treatment of Gouty Diathesis. (Uratdiathese.) G. Rosenfeld.
128 *Suction Hyperemia in Urology. (Anwendung der Bierschen Stauung in der Urologie.) E. R. W. Frank.
129 Vibratory Massage. Siebelt.
130 Supernumerary Bones in Wrist and Ankle and Sesamoid Bones in Roentgen Picture. (Ueberzählige Karpalia und Tarsalia, und Sesambeine im Röntgenbilde.) Taubert. Commenced in No. 19.
131 Differential Diagnosis of Pernicious Anemia. O. Stempelin. Commenced in No. 19.
132 Color Photography in Medicine. (Farbenphotographie nach Lumière.) P. Essau and G. Röver.

May 31, No. 22, pp. 817-854.

133 *Transplantation of Joints. (Gelenktransplantation.) F. Lexer.
134 *Suprarenals and Rachitis. (Nebennieren und Rachitis.) W. Stoeltzner. Commenced in No. 18.
135 Pepsin Content in Fasting Stomach. (Pepsingehalt des nüchternen Magens.) G. Lefmann.
136 Apparatus for Application of Cold and Its Use in Mastoid Inflammation. (Kühlapparat und seine Verwendung bei akuten Warzenfortsatzentzündungen.) K. Herschel.
137 Dermatitis from Plants, etc. (Interessante Fälle von "Dermatitis venenata.") V. Pflanz.
138 Advice to Nursing Women. (Ammen- und Mutterbrustbehandlung in der Praxis.) C. Stuhl.
139 Changes in Viscosity of Blood at High Altitudes. (Veränderung der Blutviskosität im Höhenklima.) Determann.

126. **Apparent Enlargement of the Heart.**—Herz believes that enlargement is frequently diagnosed when in reality it does not exist. It can not be too often reiterated, he asserts, that the assumption of heart disease is an important factor in producing disease in a previously sound heart and vascular system. He reviews the conditions liable to simulate enlargement of the heart. When for any reason the heart lies more horizontally, it always slides toward the left; the area of dulness and the apex beat suggest enlargement, and a systolic murmur corroborates this. These phenomena are probably caused by the kinking of the heart in respect to the ascending aorta and the eddy in the blood at the point of the kinking. The most common cause of this horizontal attitude of the heart is the pushing up of the diaphragm. The heart slips toward the left no matter whether the right or left side of the diaphragm is lifted. Many causes may push up the diaphragm, and it may induce a number of subjective symptoms and even lead to extrasystoles. An unduly long ascending aorta or a stooping attitude may favor the sliding of the heart toward the left. The displaced apex may return to its normal place when the patient is made to stand up straight as for a military salute. Malformation in the thorax may also simulate a dilated or hypertrophied heart, especially in persons who work stooping over, copyists, dentists, draftsmen and others. The abnormal contact of surfaces in these conditions causes peculiarly marked subjective symptoms. In case the muscles are unusually well developed while the chest is deep, the area of cardiac dulness may extend beyond the maxillary line and suggest hypertrophy. In obese persons it must not be forgotten that the dulness is the enlarged acoustic shadow of the heart, which is exceptionally far below the surface in these persons.

127. **Treatment of Uric Acid Diathesis.**—Rosenfeld's research and experience show that addition of sugar to a diet containing purin causes an increase in the amount of uric acid eliminated. He advises a few tests of the metabolism for each patient, to regulate the diet in accordance with the findings. In respect to medication he advocates the continuous use of urea. It limits the production of uric acid, he declares, and keeps the uric acid in the urine well dissolved. If the patient urinates in a cone of filtering paper the paper will be covered with granules of uric acid in extreme cases, but if these patients are taking daily from 10 to 15 gm. (150 to 225 grains) of urea the filter will be free from crystals. In one case the patient had clear urine under the urea treatment; it was then suspended for eight weeks, and 105 grains of uric acid crystals were collected on the filter in this period. On resumption of the urea the elimination of undissolved uric acid ceased at once. The urea causes no inconveniences of any kind, he says, not disturbing either the stomach or kidneys. Its only fault is that its action ceases with its discontinuance. He also ascribes great importance to glycerin. He does not attribute any concrement-expelling power to it, but believes that it washes out the uric acid retained in the urinary canals, not deposited, and that it arrests the pains induced by concrements in the kidneys. He prescribes it in the dose of 150 gm. for a man weighing 75 kilograms; that is, 2 gm. per kilo (about 14 grains for each pound of weight). The entire dose of 150 gm. is dissolved in tea, Seltzer water or milk, and taken in four portions at two-hour intervals. This dose is repeated on one day every fourth or sixth week, and in the intervals 10 or 15 gm. of urea are taken every day. He regards this glycerin-urea treatment as acomplishing all that can be expected until we discover some means of dissolving the concrements themselves.

128. **Suction Hyperemia in Urology.**—Frank has treated 60 patients with buboes by application of a cupping glass to induce suction hyperemia, and reports good results. He gives an illustration of the large cupping bell he uses; it fits over the region and can easily be applied by the patient himself. It is applied for twenty minutes every two hours, with or without incision. The pain of gonorrheal joint affections was always promptly arrested by constriction hyperemia, combined with superheated air. Several cases are described of genital tuberculosis in young men in which remarkable benefit was obtained with the cupping bell. In two of the cases no other measures except a mutilating operation could have been considered. He believes that artificially induced hyperemia, applied in time, will render the treatment of genital tuberculosis much more conservative and promising than has been the case hitherto. Small foci in the prostate, and perhaps also the seminal vesicles, are favorably influenced and heal under suction applied to the testicles. The method is also of service in hastening the healing of fistulous passages.

133. **Transplantation of Joints.**—Lexer's experiences with restoration of joint function by transplantation of part of a joint from an amputated limb have been previously mentioned in these columns. Even if only a hinge joint can be supplied, the functional results are excellent. One patient was a man of 38 with sarcoma of the tibia requiring resection of the upper third and of the articular cartilage. A corresponding piece from the tibia of a limb amputated from another man on account of senile gangrene was introduced in its place, and in three months the patient was using the leg almost normally, with no shortening. In another case the second toe from an amputated limb replaced a finger removed on account of chondroma. In a third, a girl of 19 had right-angled synostosis of the left knee after suppurative osteomyelitis. After resection of a wedge from the joint a gap was left of more than two inches between the tibia and femur. The knee from an amputated limb was implanted in this gap and the projecting epiphyses nailed to the bones. The patellar ligament was sutured to the periosteum and a fenestrated plaster cast applied. In the fifth week the *x*-rays

showed callus growing over the edges of the implanted epiphyses, and the leg was exercised. The patella grew to the bone beneath, and in the third month the flap was lifted and the patella was removed. Vital processes could be seen in the implanted tissues. Normal passive movements are possible but active movements are still defective as important muscles are lacking. Recently he raised the entire flap for the second time, and a piece of the tunica vaginalis, nearly six inches square, taken from a hydrocele being operated on at the same time, was transplanted with the raw side on that of the flap to which it was fastened. The upper edge was sutured to the periosteum over the upper epiphysis, and in such a way that a fold forms as the joint is used The flap was then replaced without further fastening of the transplanted serosa He thinks that this technic supplies a sufficient substitute for the capsule of the joint A piece of omentum might be used for the serosa graft, and it might be implanted at the first operation or as a preliminary before the operation. He has never tried to implant an entire unopened joint in an adult for fear of necrosis, but he has done this on the knee of a child, transplanting the entire capsule and epiphyses, with excellent results to date He does not approve of implanting substances foreign to the body, like celluloid, as they induce unwished for reactions.

134 **Suprarenals and Rachitis.**—Stoeltzner presents arguments to prove that functional insufficiency of the suprarenals is the predominating factor in rachitis and osteomalacia. In animals and in man, he says, domestication, living indoors, is what paves the way for rachitis The degeneration of the suprarenals may be the result of generations of unphysiologic minimal demands on the functioning of the striated musculature.

Monatsschrift fur Geburtshulfe und Gynakologie, Berlin.

May, XXVII, No 5, pp 554 680

140 The So called Decubitus with Prolapse (Decubitusgeschwür beim Prolaps) F Kermauner
141 *Successful Suggestive Treatment of So called Uncontrollable Vomiting of Pregnancy (Suggestiv Behandlung der Hyperemesis gravidarum) F. Schulte

141. **Suggestion in Treatment of Vomiting of Pregnancy.**—Schulte states that at the clinic in Giessen, 18 cases of uncontrollable vomiting have been observed, and the patients were cured by suggestion Various measures were used, all for the suggestive effect In every case there was pronounced hysteria or nervousness accompanied by enhanced irritability of the sensory nerves. The patients were put to bed, on a liquid diet at first, sometimes with alimentary enemas; lavage of the stomach was done occasionally to impress the patients One of the best measures was the suggestion of retroflexion of the gravid uterus. A sham correction of the retroflexion was then carried out and a pessary inserted for a few days. All the patients responded with prompt arrest of the hitherto incoercible vomiting. It was never found necessary to interrupt the pregnancy. In one case retroflexion actually existed and the vomiting ceased after it was corrected, but recurred when the pessary dropped out of the vagina, although the uterus was then in anteflexion. The vomiting ceased again when the pessary was replaced. Three of the patients had recurrence of the vomiting at different pregnancies, cured each time by the same measures. One patient had a recurrence of the vomiting after her return home, but suggestion by letter that the vomiting would cease in three days, when the menstrual period was over, proved effectual. It seems evident that the hyperemesis which is observed without an appreciable affection of any internal organ is a purely psychogenic symptom induced by the pregnancy, and consequently, curable by suggestion.

Munchener medizinische Wochenschrift.

May 19, LV, No 20, pp 1057-1112

142 Histogenesis of Myeloid Leukemia H. Schridde.
143 *Constriction Hyperemia in Meningitis (Verwendbarkeit der Bierschen Stauung bei Hirnhautentzundungen.) H. Stursberg
144 Hemolytic Complement in Human Milk M. Pfaundler and E Moro
145 Specific Complement Binding Substances in Blood Serum in Typhoid Bacilli Carriers (Spezifische komplementbindende Stoffe im Blutserum von Typhusbazillenträgern) C. Schone
146 New Clinical Opsonic Technic (Opsoninbestimmung) H. Kammerer
147 Clinical Importance of Cutaneous and Percutaneous Tuberculin Reaction in Adults E Emmerich
148 Pathologic Anatomy of Relapsing Fever. M Rabinowitsch.
149 Serum Treatment of Puerperal Fever A Müller.
150 Treatment of Acne rosacea M. v Zeissl
151 Propaganda for Breast Nursing. Its Influence on Later Development of the Child (Stillpraxis) M. Nagel. Id H. Lenk.
152 *Clinical Importance Diagnosis and Treatment of Chronically Inflamed Tonsil Tissue. (Klinische Bedeutung des chronisch-entzündeten nicht hypertrophischen Gaumentonsillengewebes) O Muck
153 *Idiosyncrasy to Eggs (Fall von Idiosynkrasie gegen Hühnereiweiss) P Landmann
154 Gelatin in Treatment of Hemorrhagic Diathesis in the New born L Gruneberg
155 *Progress in Diagnosis of Brain Tumors (Diagnostik der Gehirntumoren) A Knapp Commenced in No 19.

May 26, No 21, pp. 1113-1160

156 *Typhoid Bacilli in Blood in Absence of Typhoid Fever. (Vorkommen von Typhusbazillen im Blut von nicht typhuskranken Personen) O Busse
157 Case of Congenital Word Blindness A Peters.
158 Serious Hemorrhage During Childbirth (Beurteilung schwerer Blutungen unter der Geburt) Schickele
159 *Chronic Otitis Media (Behandlung und Prognose der chronischen Mittelohreiterung) A v Ruppert Id Suction Hyperemia. (Biersche Stauung bei Otitis media) Stimmel.
160 The Vaccine Test by Subcutaneous Injection (Vakzineprobe mittels subkutaner Injektion beim Kuhpockenkranken) W. Knoepfelmacher
161 Adhesions After Laparotomies. (Nachbehandlung Laparotomierter) M. Jerusalem
162 Behavior of Lymph Glands in Joint Affections (Verhalten der Lymphdrüsen bei manchen Gelenkaffektionen.) E. Plate.

143. **Constriction Hyperemia in Meningitis.**—Stursberg is assistant at Schultze's clinic at Bonn where he has been studying the influence on the cerebrospinal fluid of application of an elastic band to the neck. The results are not encouraging for use of this measure in meningitis.

152. **Clinical Importance of Inflamed Tonsils.**—Muck regards the tonsils as responsible for the recurrences of articular rheumatism, etc. In 50 cases of chronic tonsillitis, with plugs and pus in the tonsils, he found an apical affection in 27 per cent He has devised a simple aspirating contrivance for evacuating the contents of the crypts in the tonsils. He calls it the "tonsil exhaust," and relates two cases to show its advantages for diagnosis and treatment, with an illustration of the aspirator. Recurring acute articular rheumatism vanished permanently after its application in these cases.

153. **Idiosyncrasy to Eggs and Alleged Meat Juice Preparations.**—Landmann has a patient, a man of 35, who has a marked idiosyncrasy to eggs, but is otherwise healthy. Ingestion of the slightest trace of egg albumin causes serious distress. The same distress followed the ingestion of a certain "meat juice" preparation. This experience was incomprehensible until a recent exposure of the meat juice preparation revealed that it was composed of meat extract and egg albumin.

155. **Brain Tumors.**—Knapp reviews recent progress in the diagnosis of brain tumors, citing concrete examples He advises puncture of the brain to confirm or correct the diagnosis, repeating it at various points to determine the extent and nature of the tumor, the location, blood content and eventual secondary softening. During the operation several pathologists in the operating room itself should be constantly examining the character of the excised scraps of tissue in turn until, all around the tumor, the surgeon is working in sound tissue.

156. **Typhoid Bacilli in Blood in Non-Typhoid Affections.**—Busse was able to cultivate typhoid bacilli from the blood of four patients with a severe infectious disease, but no signs of typhoid during life or at autopsy. One was a patient with pneumonia, the others had miliary tuberculosis or phthisis. He thinks that such cases would be more numerous if sought for. The patients had probably been bacilli carriers. The cases show that typhoid does not develop in these bacilli carriers even when the bacilli get into the blood. They teach further that positive findings in respect

to typhoid bacilli in the blood are not decisive as to the presence of typhoid fever.

159. **Suction Hyperemia in Diseases of the Middle Ear.**—Stimmel has treated chronic otitis media in thirty cases with Bier's suction apparatus with marked improvement in the hearing in seven cases. The pus and fetor vanished and the mucosa healed. In fifteen other cases marked improvement was observed, but the present results are not known. In two other cases the process was evidently tuberculosis, but improvement was obtained. The ear affection had lasted for from two years to fifty, rebellious to all treatment. The suction bell was applied for from two to thirty-five times, at two or three day intervals, at first for ten minutes, and never for more than fifteen. He prefers a suction bell with a diameter of 5 cm., the suction only strong enough to cause distinct swelling of the ear, never pain in the interior of the ear. He never observed disagreeable by-effects. It is surprising, he says, the amount of pus or serum found in the ear after the suction. In very painful cases of furunculosis of the ear, a constricting band applied for six or eight hours during the day gives relief, but arteriosclerosis and enlargement of the tonsils contraindicate this measure. Caries and cholesteatoma also contraindicate suction treatment in middle ear disease.

Wiener klinische Wochenschrift.

May 14, XXI, No. 20, pp. 709-744.

163 Production of Antibodies Induced by Rectal Incorporation of Antigens, and Absorption of Antibodies Introduced into Rectum. (Erzeugung von Antikörpern durch rektale Einverleibung der Antigene und über die Resorption rektal eingebrachter Antikörper.) C. Sternberg.
164 Production of Toxin by Mold Fungi. (Ein in Schimmelpilzen vorkommendes Gift.) A. Sturli.
165 *Typhoid Fever Complicated with Gangrene of the Extremities. S. E. Biron.
166 Findings in Lymph Glands in Syphilis. (Lymphdrüsenbefunde bei kongenitaler und postfötaler Lues.) J. Bartel and R. Stein.
167 Mode of Action of Potassium Iodid. (Wirkungsweise des Jodkaliums.) J. Zwintz.
168 Apparatus for Determination of Fermentation in Stools. (Bestimmung der Stuhlgärung nach Schmidt-Strassburger.) H. Delug.
169 The Biuret Test for Pepsin in Stomach Content. (Biuretreaktion zum Nachweis des Pepsins im Mageninhalt.) E. Palier.
170 Ocular Tuberculin Reaction. (Ophthalmoreaktion.) J. Mitulescu.
171 Complement-Binding Test in Leprosy. (Anwendung der Komplement-bindungsreaktion auf Lepra.) E. Eltner.
172 Law of Action of Pepsin. (Gesetz der Pepsinwirkung.) E. Schütz.
173 Orthostatic Albuminuria. C. R. v. Stejskal and V. Blum.

May 21, No. 21, pp. 745-782.

174 *Serum Diagnosis of Syphilis. Its Practical Importance for Medicine. A. Wassermann. Id. Theoretical. H. Elias, E. Neubauer. O. Porges and S. Salomon.
175 Antagonism Between Sympathetic and Autonomous Nerves in Respect to Action of Certain Drugs and Their Influence on Internal Secretion. H. Eppinger, W. Falta and K. Rudinger.
176 Binding of Complement in Experimental Trypanosomiasis. O. Hartoch and W. Yakimoff.
177 Behavior of Hemotropins of Immunized Guinea-pigs and Their Young. M. Sohma.
178 *Functional Kidney Tests. (Zur funktionellen Nierendiagnostik.) R. Lenk.

165. **Gangrene of the Extremities in Typhoid Fever.**—Biron has found 11 cases of this complication of typhoid in Russian literature, and adds another to the list. With two exceptions the patients were between 18 and 25. In his patient the gangrene of the right foot and thigh developed at the commencement of the third week of a mild typhoid fever. He ascribes the gangrene to thrombosis due to arteritis or spasm of the vessels. Both the typhoid bacilli and their toxins may participate in the production of the arteritis. The thrombosis may be favored by disturbance in the general circulation from myocarditis, paralysis of the vagus center, disturbance in the automatic ganglia of the heart or in the coronary arteries or by increased coagulability of the blood and lowered resistance of the tissue cells from toxic and trophic influences. He remarks in conclusion that arteritis not leading to gangrene is frequently overlooked, but undoubtedly contributes to the later development of arteriosclerosis, aneurism, etc., after typhoid and other infectious diseases.

174. **Serum Diagnosis of Syphilis.**—This communication was presented at the recent congress for internal medicine at Vienna, and in it Wasserman announced that the serum diagnosis of syphilis, by the complement-binding method with aqueous or alcoholic extracts of syphilitic organs, is reliable in the clinic, and is now ripe for general adoption.

178. **Functional Kidney Tests.**—Lenk reports from Hochenegg's clinic at Vienna a few cases of kidney affections in which the phloridzin test gave misleading findings, sometimes indicating normal conditions when the kidney proved to be seriously diseased, while in other cases the test indicated advanced disease when the kidney proved to be functionally capable as soon as reflex disturbance subsided.

Zentralblatt für Chirurgie, Leipsic.

May 16, XXXV, No. 20, pp. 609-632.

179 *Sensibility of Abdominal Organs. (Sensibilität der Bauchorgane.) C. Ritter.
180 *Treatment of Acute Suppurating Osteomyelitis. S. Rolando.

May 23, No. 21, pp. 633-664.

181 Operative Treatment of Invagination of Descending Colon. C. Longard.
182 *Retention Catheterization of Ureters in Surgical Treatment of Various Bladder Affections and Hypertrophy of the Prostate. (Dauerkatheterismus der Ureteren.) L. Cardenal.

May 30, No. 22, pp. 665-696.

183 Influence on Course of Chloroform Anesthesia of Covering Mask with Towel. (Welchen Einfluss hat das Ueberdecken der Maske mit einem Handtuche auf den Verlauf der Chloroformnarkose?) C. Hofmann.
184 *Apparatus for Overpressure. (Einfacher Apparat zur Ueberdrucknarkose.) M. Tiegel.

179. **Sensibility of the Abdominal Organs.**—Ritter reports extensive research on dogs and rabbits, which shows that the abdominal organs are not so free from sensibility as Lennander announced. The ligation of the vessels in the abdominal cavity seems to be the touchstone for the degree of sensitiveness.

180. **Treatment of Acute Suppurative Osteomyelitis.**—Rolando has treated a number of patients between 6 and 18 with hematogenous osteomyelitis, and has obtained the best results by trephining at the lowest point of the suppuration, thus allowing free escape to the pus. A preliminary skiagram will determine the exact location of the focus. It is unnecessary to open up the focus, he says, further than to allow its evacuation by the trephine.

182. **Retention Catheterization of Ureters in Bladder Affections, Etc.**—Cardenal writes from Madrid to endorse the advantages of leaving a retention catheter in each ureter when it is advisable to keep the bladder dry for a few days after operations, removal of stones, enucleation of the prostate, etc. His experience shows that the catheters can be left for nine days without complication, and he thinks that they might be left for two weeks. The results of intravesical intervention are much better when the bladder can thus be kept dry to permit primary healing.

184. **Apparatus for Overpressure.**—Tiegel's apparatus is illustrated as he has used it in a number of operations on the lungs, heart or esophagus. There was no collapse of the lungs. The patient kept on breathing quietly and regularly although the pleural cavity was opened for more than an hour in some cases. The apparatus consists merely of a small mask, a rubber balloon, the tank of oxygen or compressed air, and a water jar. There is nothing to interfere with the work of the anesthetist or operator.

Zentralblatt für Gynäkologie, Leipsic.

May 16, XXXII, No. 20, pp. 641-688.

185 *Delivery by the "Uterus-Abdominal Wall Fistula." (Entbindung durch die "Uterusbauchdeckenfistel.") H. Sellheim.
186 Technic and Results of Pubiotomy. (Hebosteotomie.) H. Ehrlich.
187 *Childbirth with Double Uterus. (Geburt bei Doppelmissbildung der weiblichen Genitalien.) O. Henrich.
188 *Convoluted Uterus. (Der schneckenförmige Uterus.) L. M. Bossi.
189 Decapsulation of Kidneys in Eclampsia. (Nierendekapsulation bei Eklampsie.) E. Haim.
190 *Tonic Action of [illegible] Solution by the Rectum. (Die [illegible] Natriumsaccharat-Kochsalzlösunge[illegible]
191 Spring Curette. [illegible]ph.

185. Delivery by the "Uterus-Abdominal Wall Fistula."—Sellheim has been seeking for a technic of extraperitoneal incision of the uterus which would be safe even for infected cases. He thinks he has accomplished this by what he calls "*Uterusbauchdeckenfistel*," which aims to deliver the febrile parturient through a small opening in the abdominal wall, the abdominal cavity and the pelvic cellular tissue being thoroughly protected. The main point is to incise the abdominal wall and the wall of the uterus at a point where they correspond, and where this correspondence can be maintained even during involution of the uterus. This is possible with a median sagittal incision immediately above the symphysis. The parietal peritoneum is sutured carefully to the edges of the incision in the skin. The abdominal cavity is shut off by suturing the parietal and uterine peritoneum. The uterine peritoneum and the reflection over the bladder are mobilized on each side, and the edges sutured to the skin around the incision, where the parietal peritoneum is already fastened. The bladder is pushed to one side. By carefully incising the wall of the uterus the outer layers can be seized and brought up outside the cutaneous incision. After opening into the cavity of the uterus and wiping the edges of the wound, they are seized with forceps and drawn outside the abdominal wound. The edges of the uterine wound thus drawn out are pulled down over the edges of the abdominal wound on all sides and held with forceps. The tissues here are so elastic that the child can be extracted without their tearing. After the extraction of the child, the turned-over edges of the uterine wound are fastened to the skin. The fistula rapidly heals. In the case described, by the fifth day nothing was left of the opening except a hole 5 cm. in diameter, surrounded by a ring of uterus wall about 1 cm. thick. The patient was allowed to get up early, even although the uterine cavity was secreting considerably and there was slight superficial suppuration at the edge of the fistula. The uterus wall was sutured the eighteenth day, and the patient was discharged with restored working capacity the fifth week, with a healthy child.

187. Childbirth with Double Uterus.—A iii-para, 24 years old, was in labor for a week. Finally the contractions became more vigorous and the child was rapidly expelled. Manual loosening of the placenta led to the discovery of a double uterus; the walls were remarkably thin and the second uterus had participated in the formation of decidua; its cervix was also dilated.

188. Convoluted Uterus.—Bossi has found in a number of cases that dysmenorrhea, nervous disturbances and sterility are the result of the curving of the cervix of the uterus back on itself, thus presenting the shape of a convoluted seashell. The condition causes a tendency to painful menstruation, leucorrhea, hysteria and chloroanemia in the unmarried, and endometritis and sterility in the married. He treats it by cutting off the curved part of the cervix. He sometimes performs a plastic operation or uses his intrauterine pessary. Experience with 200 cases has shown, he says, that this pessary answers every purpose while it causes no disturbances even when left in place for 15 or 20 days.

190. Stimulating Effect of Rectal Injection of an Infusion of Sodium Saccharate.—Schücking's favorable experiences with infusion of sodium saccharate have been mentioned in The Journal. When haste is not necessary, rectal instillation is preferable. The effect on the vascular system and intestine of rectal infusion of a 0.3 per cent. solution of sodium saccharate and 0.7 per cent. salt solution is remarkable in septic conditions. It raises the blood pressure and improves the circulation in general while putting an end to atony of the intestine in puerperal peritonitis without inducing a tendency to diarrhea. He allows only a drop at a time to enter. When designed to stimulate the vascular system, he instils the fluid an hour at a time, but in case of intestinal atony, he keeps up the instillation for 24 hours, using in this time 2 or 3 liters of the fluid. The sodium saccharate seems to have a direct influence on the metabolism and the functioning of the musculature of the bowels.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Outlines of Physiology. By Edward Groves Jones, A.B., M.D., Professor of Surgery in Atlanta School of Medicine, and Robert Grier Stephens, A.B., M.D., Instructor in Physiology in the Atlanta School of Medicine. Second Edition, Revised. Pp. 383, with Illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

A Manual for Midwives. By C. Nepean Longridge, M.D. (Vict.), F.R.C.S. (Eng.), M.R.C.P. (Lond.), Late Resident Medical Officer at Queen Charlotte's Hospital. Cloth. Pp. 309, with Illustrations. Price, $1.40. Philadelphia: P. Blakiston's Son & Co., 1908.

A Short Practice of Midwifery. By Henry Jellett, B.A., M.D. (Dublin University), F.R.C.P.I., Ex-Assistant Master, Rotunda Hospital. Fifth Edition, Revised. Cloth. Pp. 645, with Illustrations. Price, $4.20 Philadelphia: P. Blakiston's Son & Co., 1908.

The Newer Remedies. By Virgil Coblentz, A.M., Phar.M., Ph.D., F.C.S. Professor of Chemistry in Columbia University, Department of Pharmacy. Fourth Edition, Revised and Enlarged. Cloth. Pp. 133. Boston: The Apothecary Publishing Co., 1908.

Diseases of the Nervous System. By H. Campbell Thomson, M.D. (Lond.), F.R.C.P., Dean of and Medical Tutor in the Middlesex Hospital. Cloth. Pp. 480, with Illustrations. Price, $2.75. Chicago: W. T. Keener & Co., 1908.

Meat and Food Inspection. By Wm. Robertson, M.D., D.P.H.F.P.S., Lecturer on Public Health, Royal College for Surgeons, Edinburgh. Cloth. Pp. 372, with Illustrations. Price, $3.50. Chicago: W. T. Keener & Co., 1908.

Electrical Treatment. By Wilfred Harris, M.D., F.R.C.P., Physician to the Department for Nervous Diseases, St. Mary's Hospital. Limp Cloth. Pp. 383, with Illustrations. Price, $2.25. Chicago: W. T. Keener & Co., 1908.

Insomnia and Nerve Strain. By H. S. Upson, M.D., Attending Neurologist to the Lakeside Hospital, Cleveland, Ohio. Cloth. Pp. 142, with Skiagraphic Illustrations. Price, $1.50. New York: G. P. Putnam's Sons, 1908.

State Children's Relief Board. Report of the President, the Hon. C. K. Mackellar, M.B., C.M., M.L.C., Etc., for the Year Ending April 5, 1907. Paper. Pp. 55. Sidney: William Applegate Gullick, Government Printers, 1907.

The Law of Psychic Phenomena. By Thomas Jay Hudson, Ph.D., LL.D., Author of "A Scientific Demonstration of the Future Life," etc. Cloth. Pp. 409. Price, $1.50. Chicago, A. C. McClurg & Co., 1908.

Lectures of the Chautauqua School of Nursing. Vol. 1. Studies in General Nursing. Vol. 2. Obstetrical and Surgical Nursing. Vols. 1 and 2. Cloth. Jamestown, N. Y.: Chautauqua School of Nursing.

Subcutaneous Hydrocarbon Protheses. By F. Strange Kolle, M.D., Author of "The Recent Röntgen Discovery," Etc. Cloth. Pp. 153, with Illustrations. Price, $2.50. New York: The Grafton Press.

The Aix-les-Bains Thermal Treatment. By H. Forestier, M.D., Fellow of the Royal Society of Medicine, London. Cloth. Pp. 65. Price, 60 cents. Philadelphia: P. Blakiston's Son & Co., 1908.

Pharmacology. By Maurice Vejux Tyrode, M.D., Instructor of Pharmacology in the Medical School of Harvard University. Cloth. Pp. 255. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

Religion and Medicine. By Elwood Worcester, D.D., Ph.D., Samuel McComb, M.A., D.D., and Isador H. Coriat, M.D. Cloth. Pp. 427. Price, $1.50. New York: Moffat, Yard & Co., 1908.

Fourth Annual Report of the New York State Education Department, for the Year Ending July 31, 1907. Cloth. Pp. 674. Albany: New York State Education Department, 1908.

Den Strikturerende Tyndtarmtuberkulose Og Dens Kirurgiske Behandling. By Dr. Johan Nicolaysen. Paper. Pp. 65, with Illustrations. Christiana: Steen'ske Bogtrykkeri, 1908.

Annual Report of the Sanitary Commissioner with the Government of India, 1906. Cardboard. Pp. 144. Calcutta: Superintendent of Government Printing, 1908.

The Law of Mental Medicine. By Thomas Jay Hudson, Ph.D., LL.D. Cloth. Pp. 281. Price, $1.50. Fourth Edition. Chicago: A. C. McClurg & Co., 1905.

History of the Medical Society of the State of New York. By James F. Walsh, M.D., Ph.D., LL.D. Cloth. Pp. 207. Published by the Society, 1907.

Ueber Arteriosklerose. By Dr. med. O. Burwinkel, Bad Nauheim. Paper. Pp. 23. Price, 18c. München: Verlag der Aerztlichen Rundschau, 1908.

Sex of Offspring. By Frank Kraft, M.D., Editor of American Physician. Cloth. Pp. 112. Price, $2.00. Cleveland, Ohio: B. Barsuette, Publisher.

Zur Ernährungslehre. By Sanitätsrat Dr. Stille, In Stade. Paper. Pp. 28. Price, 18c. München: Verlag der Aerztlichen Rundschau, 1908.

Die Panik im Kriege. By Oberst a. D. Emil Pfülf. Paper. Pp. 71. Price 30 cts. München: Verlag der Aerztlichen Rundschau, 1908.

Neurographs. Edited by William Browning, Ph.B., M.D. Vol. 1, No. 2. Paper. Pp. 164. Brooklyn: A. T. Huntington, 1908.

Food and Drug Law of Louisiana. Paper. Pp. 68. Press of Palfrey-Rodd-Pursell Co., Ltd., 1908.

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Address

THE COORDINATION OF SINGLE MUSCULAR MOVEMENTS IN THE CENTRAL NERVOUS SYSTEM.*

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It is with a deep sense of the great honor which has been bestowed on me that I come before you, and I can assure you that I appreciate very much the invitation which your chairman sent me to give an address before the Section on Nervous and Mental Diseases of the American Medical Association. I must confess to feeling somewhat disconcerted at the imposing names of professors who have preceded me, and I must crave your indulgence if I fail to attain the high standard which they have set.

In choosing a subject it seemed to me that the great value of international meetings or of the custom of inviting members of another country to give addresses consists largely in the opportunity it offers of bringing forward subjects which may not have engaged the attention of the members of the profession over here and may thus be the means of directing their thoughts into fresh channels. For this reason I have chosen the subject of the coordination of muscular movements in the central nervous system, as it is one of great importance from a practical as well as from a theoretical point of view and one which perhaps has not received the amount of attention which it merits.

First, it will be necessary to state what is meant by a muscular movement, what the different classes of muscles are which take part in any particular movement.

By the term muscular movement I mean the single movement of one joint, such as flexion of the thumb, or of several similar joints, such as flexion of all the fingers and the thumb as in grasping; I do not refer at present to such a combination of movements as are involved in the act of walking. Now what are the different classes of muscles which may take part in any particular movement, such as that of flexion of the fingers and thumb in the act of grasping? We have first the muscles which do the work, viz., the flexors of the fingers and thumb and which are called the prime or principal movers. We also have the antagonists to the movement, i. e., those muscles which produce the movement which is the opposite to the one we wish to perform, viz., the extensors of the fingers and thumb. Furthermore, we have to notice that the prime movers, the flexors of the fingers and thumb in their course from their origin in the forearm to their insertion into the phalanges pass over the wrist joint, and it will be evident that after these muscles have flexed the thumb and fingers they will also tend to flex the wrist.

This movement of flexion of the wrist, however, is not wanted, and it would be very awkward if, whenever we grasped an object firmly, the wrist would persist in flexing. How is this difficulty to be overcome? It is done by bringing other muscles into action which will prevent the wrist being flexed, and the muscles which can do this are the extensors of the wrist; so that whenever we perform the movement of grasping, the extensors of the wrist contract and their tendons on the dorsum of the wrist can be seen and felt to become tight. These muscles are called synergic muscles because they work with the prime movers whenever these muscles pass over two joints, and they neutralize the action of the muscles which is not required.

Other muscles which take part in simple movements are those which we may call fixation muscles, as they fix and prevent any movement in the joints intervening between the joint, in which the movement required is being performed, and the trunk. Taking the movements of the fingers as an example, it is found that in flexing the fingers against resistance, when the forearm is in the position of supination, the tendency of the resistance, if strong, is to overcome and extend the wrist and the elbow, and in order to counteract this tendency the flexors of the wrist and the flexors of the elbow—the biceps, supinator longus and other muscles —contract to fix the wrist and elbow joints. We have, therefore, the following classes of muscles which may take part in a movement: 1. Prime or principal movers. 2. Synergic muscles. 3. Fixation muscles. 4. Antagonists.

PRIME OR PRINCIPAL MUSCLES OF MOTION.

Taking first the prime or principal movers, we have to take into account in performing a movement whether muscles forming the prime movers all contract together, or whether there is any sequence, and whether the same sequence is always preserved. It is not easy to find a group of muscles in which it can be ascertained which particular muscle is contracting first. But in supinating the forearm the two chief muscles are the supinator brevis and the biceps, and if no work is being done it is possible to supinate the forearm without producing any contraction of the biceps.

Another example of this is shown in flexing the elbow. If this joint be flexed lifting only the weight of the forearm, the biceps is seen and felt to contract without any action of the supinator longus, and the joint can thus be kept in a position of flexion with the forearm at right angles to the vertical humerus.

Another group of muscles which I have lately observed is that of the flexors of the hip. Some of the muscles such as the psoas and iliacus, are too deep and can not be seen or felt to contract; but there are two, the sartorius and the rectus femoris, which are easily seen and felt. Besides flexing the thigh on the trunk, they will also flex the trunk on the thigh, if the latter be the fixed point, and it is in this movement that a differentiation can best be made out.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

To show this the person should stand erect on one leg and have the other resting on a chair, with the knee and thigh flexed. The person should incline slightly forward, so as to bring the center of gravity in front of the foot on which he is standing. On then inclining backward, so as to shift the center of gravity behind the foot, the flexors of the hip of the leg resting on the chair will contract to prevent the trunk falling backward, and the only muscle which will be seen to contract is the sartorius. If then the person incline still further back the rectus femoris will be seen to act but without the vasti externus and internus. This, by the way, illustrates the point that one part of an anatomic muscle can take part in a movement and not the rest of it.

The important point is that we have no power to make the rectus contract before the sartorius. The same thing can be shown by flexing the hip when in the position of sitting down, but it is then more difficult to differentiate the muscles, as merely raising the weight of the limb is sufficient to bring out both muscles. Why the sartorius should contract first it is difficult to say, unless it be that, as it arises from the anterior superior iliac spine instead of from the anterior inferior iliac spine, it can exercise more leverage and so is more capable of fine adjustment.

These examples show that in every movement the prime movers contract in a regular orderly sequence and that the muscles successively come into action, adding to their number according to the amount of work that is required to be done.

In describing the mode of action of the prime movers which take part in any movement I raised the question some years ago[1] whether a muscle acting on a rotatory or a ball and socket joint ever takes part as a prime mover in two movements, which are diametrically opposed to each other.

To illustrate this point I will take, first, the action of the supinator longus as a pronator and a supinator of the radio-ulnar articulations; next the action of the upper or clavicular fibers of the pectoralis major, which were stated by Duchenne from electrical stimulation to be both elevators and depressors of the humerus; then the posterior fibers of the deltoid, which were stated by Duchenne also from electric stimulation to be both adductors and abductors of the hanging humerus; and, last, the action of the two sternomastoids in flexing and also extending the head and neck in the position of extreme extension.

As to the first of these examples, the supinator longus, I still consider that it does not take part in both supination and pronation—in fact, I do not think it takes part in either. The opinion which I expressed regarding the clavicular fibers of the pectoralis major as being elevators and never depressors of the humerus I am glad to find has received the approval of Merkel.[2] Next, the posterior fibers of the deltoid I consider to be adductors and never abductors of the humerus—an action about which opinions differ—and, last, the sternomastoids also are, in my opinion, never extensors of the head and neck. The muscle which might act in two opposite ways is the latissimus dorsi, the large flat muscle which extends from the iliac crest and lower half of the spine to the humerus. This muscle has always been described in the text-books as an extraordinary muscle of inspiration, but as I showed ten years ago[3] it is evidently a muscle of expiration, as any one can prove for himself by putting the fingers on the posterior fold of the axilla and giving a good cough, or, if one prefers, indulging in immoderate laughter; and it is evidently one of the muscles which are affected in Milton's line from *L'Allegro:*

Sport that wrinkled care derides
Laughter holding both his sides.

With regard to inspiration, I have found that this muscle does not take part in such severe dyspnea as occurs in pneumothorax or pneumonia, though it does act in the emotional movement of sobbing and yawning. With the exception of the latissimus dorsi, whose action as an inspiratory muscle I think is doubtful, I do not know of any muscle in the body which takes part as a prime mover in two actions diametrically opposed to each other.

SYNERGIC MUSCLES.

Taking next the synergic muscles, of which I have already given one example, I would say that another example is seen in the movement of extending the thumb; here the extensors of the thumb pass over the wrist joint and would abduct this joint, but to prevent this movement, which is not wanted, the ulnar adductors, the flexor carpi ulnaris and the extensor carpi ulnaris contract and thus fix the wrist joint; so that in extending the thumb we contract at the same time the ulnar carpal muscles. Another example is that of the extension of the fingers, where the principal movers are the extensors of the fingers, and the synergic muscles are the flexors of the wrist.

In the movement of supination we have also a good example. The chief supinator is the biceps, but this muscle is also a powerful flexor of the elbow, and yet it is perfectly easy to supinate strongly without flexing the elbow. The explanation is that the biceps takes part in two movements by passing over two joints, viz., flexion of the elbow and supination of the forearm, and if only supination is required the triceps contracts as a synergic muscle and counteracts the flexion of the elbow by the biceps; so that whenever we perform strong supination only, the triceps contracts.

I have recently been examining the action of the synergic muscles in the movements of the leg, which has not, I believe, been previously observed. In flexion of the hip the sartorius acts when the movement is slight and the rectus femoris comes in when the movement becomes stronger. But the sartorius also is a flexor and a rotator in of the knee joint, and the rectus femoris is an extensor of the knee and a more powerful muscle than the sartorius. Therefore, in strong flexion of the hip when the knee is bent, the knee would tend to be extended and also to be rotated in. On carefully examining the muscles at the back of the thigh I find that in this movement the biceps contracts; this muscle, it will be remembered, is the hamstring, which arises by two heads from the femur and from the ischial tuberosity and is inserted into the head of the fibula. The interesting point is that although its tendon becomes tense in this movement, its long head arising from the ischial tuberosity can not be felt to contract. The only actions which are here required of this muscle are flexion and rotation out of the knee, to counteract the extension of the knee by the rectus and the rotation in by the sartorius; the long head does not contract presumably because extension of the hip is not required, as it would be antagonistic to the movement we wish to perform, viz., flexion of the hip.

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[1] Brain, 1891, p. 51.
[2] Ergebnisse der Anatomie, 1905.
[3] Brit. Med. Jour., Oct. 1, 1898.

Again, extension of the hip is performed by the hamstrings, i. e., the biceps, semimembranosus and semitendinosus, but these muscles also flex the knee, and if the latter movement is not required, as in extending the hanging lower limb against resistance applied to the back of the thigh, the vasti contract to prevent flexion of the knee, but not the rectus femoris, as this last would also tend to flex the hip, a movement which is antagonistic to the one required.

The relation between the prime movers and the synergic muscles is very close, and it seems impossible to contract one without the other. For instance, it is not possible to extend the thumb in the slightest degree without causing a contraction of the extensor and flexor carpi ulnares, and if the prime mover be paralyzed by a lesion of the peripheral nerves the synergic muscles go on contracting and produce movements which are not intended.

As Duchenne pointed out, if the extensors of the fingers be paralyzed or weakened by a peripheral neuritis and the patient be asked to extend the fingers, the only effect is to flex the wrist by the synergic muscles, the flexors of the wrist, which go on contracting as though nothing had happened. The brain sends down a message to the two sets of muscles, and if one set—the prime movers—happens to be weak, the other set—the synergics—get their full amount and produce a movement—flexion of the wrist—which is quite different to extension of the fingers, which was required.

Apparently the brain has no power to moderate the impulse sent to the synergics to make them act proportionately to the weak prime movers. The close relation is also well shown by performing the movement of clenching the fist tightly and at the same time flexing the wrist. In the first movement the flexors of the fingers and thumb contract and also the extensors of the wrist to prevent the wrist being flexed; in the other movement the flexors of the wrist contract strongly. We have, therefore, two different movements to be carried out, and I have found that in the first movement the synergics—the extensors of the wrist—are so closely connected with the prime movers that they will continue acting and will oppose and antagonize the flexors of the wrist, the prime movers in the other movement. This opposition is the cause of the strained effort which is experienced when these two movements are performed at the same time.

The intimate relation is also shown by the fact that the synergic muscles act in all positions of the joint. Duchenne thought that the function of the synergics was to put the muscles of the prime movers in the greatest elongation in order to augument their dynamic power, but this I think can not be their true use, as is shown by the following procedure: If the thumb be extended the synergic muscles, the extensor and flexor carpi ulnares contract to prevent the wrist being abducted; if, however, the wrist be first passively abducted to the radial side, and then the thumb be extended, the synergic muscles will still contract without, however, improving the position of the joint and enabling the extensors of the wrist to work at a greater advantage.

FIXATION MUSCLES.

I have already mentioned the fixation muscles of the flexors of the finger, and I now wish to refer to the extensors of the fingers and their fixation muscles. If the wrist be in the position of pronation, and the fingers be extended against resistance, this resistance if strong enough will tend to overcome the wrist and cause it to flex. So to prevent the wrist from being flexed the extensors of the wrist take part in the movement, and to prevent the elbow being extended by the pressure the biceps contracts. It is to be observed that the extensors of the wrist and the biceps as fixation muscles do not come into action at once, but that a certain amount of resistance has first to be experienced; it seems, however, that as soon as the joints begin to be displaced by the extra pressure then the fixation muscles contract.

In the action of the extensors of the wrist as fixation muscles in the movement of extension of the fingers, an interesting clinical fact has long been observed in lead paralysis. In some cases of lead paralysis we see the following well-known condition: The patient has paralysis of the extensors of the fingers, but not of the extensors of the wrist, and if he be told to extend the wrist in the ordinary way with the fingers flexed he can do so and the tendons of the extensors of the carpus can be felt and be seen to stand out at the wrist. When, however, the patient is told to extend the wrist with the fingers straight, he gets the phalangeal joints straight by means of the interossei and lumbricales muscles which extend those joints, but he is unable to extend the metacarpo-phalangeal joints owing to paralysis of the extensors of the fingers, and the only thing which takes place, as Duchenne pointed out, is that the wrist is flexed owing to the synergic action of the flexors of the wrist, for, as I have already pointed out, whenever we wish to extend the fingers the flexors of the wrist contract to prevent the wrist being extended.

But the most interesting point is that the patient has absolutely no power to make his extensors of the wrist, which are not paralyzed, contract so long as he is trying to extend his wrist with the fingers kept straight, and no tightening of the tendons of the extensors of the wrist can be felt. This condition has been known for some time but had not been explained, and a few years ago I made some observations to see what occur in health. Such observations anyone who wishes can readily make on himself.

Put the left thumb on the back of the right wrist over the tendon of the extensor carpi radialis, and the left first finger over the right flexor carpi ulnaris just above the pisiform bone; let the right fingers remain flexed and extend the wrist, and at once the tendon of the carpi radialis can be felt to contract. If now one starts again and extends the right fingers fully one feels at once the tendon of the synergic muscle, the flexor carpi ulnaris, to contract. If the wrist be now extended, keeping the fingers extended, the flexor carpi ulnaris tendon is still taut, but the thumb does not feel any contraction on the tendon of the extensor carpi radialis, showing that all the work is done by the extensors of the fingers. But if the wrist be now extended, with the fingers extended, against resistance, it can be done by pressing the back of the fingers upward against the under surface of a table, what will happen? After the pressure has reached a certain point the thumb will feel the extensor carpi radialis contracting, which shows that the extensors of the wrist are now assisting the extensors of the fingers to overcome the resistance which would otherwise cause the wrist to flex. The important point is that if the fingers be kept fully extended, the extensors of the wrist will not take part in the movement until the pressure to be overcome is considerable; in my own case it was as much as three or four pounds.

The fact that in health the extensors of the wrist will not take part in the movement of extending the wrist, until there is a fear that the resistance of the wrist will be overcome, places these muscles in the category of fixation muscles, which, as I have already mentioned, do not take part in a movement until there is a certain amount of stress on the joint. In lead paralysis the patient tries to extend his fingers and manages to extend the phalangeal joints by the interossei and lumbricales, but he has no power to contract the paralyzed extensors of the fingers and to produce the tension of three pounds which is necessary to bring into the movement the action of the extensors of the wrist.

The interesting point is that the patient has no power to make the extensors of the wrist contract so long as they are in a secondary position as fixation muscles, but they can do so at once as prime movers.

Another instance of fixation muscles is the contraction of the muscles of the upper arm, which occurs when the fingers and thumb flex in the movement of grasping an object. The flexors of the fingers, arising as they do from the internal condyle of the humerus, have a slight action of flexing the elbow and, especially when the elbow is at a right angle, to prevent this flexion and to steady the elbow joint the triceps contracts, but, like other fixation muscles, it does not contract until a certain amount of displacement takes place. In my own case I can not feel the triceps contract until the dynamometer has registered a grasp of from six to ten pound (3-5 kgs.).

In describing the action of the prime movers I have made mention of the muscles which produce exactly the opposite movement, viz., their antagonists.

For instance, in the movement of flexion of the fingers the antagonists are the extensors of the fingers (but not the extensors of the wrist which are synergic muscles), and in the movement of flexion of the elbow the antagonists are the triceps and anconeus. I do not propose to give you the history of the action of the antagonists and the antagonism which they have given rise to among authors. I would merely say that I think Galen was right and that Winslow and Duchenne were wrong in their ideas of the subject.

Beaunis[4] and Demeny,[5] by means of Marey's myographs, showed that the antagonists relax when any resistance is made to a movement, but that in natural movements (when there is no resistance) and which are at a slow and uniform rate, there occurs a simultaneous action of the antagonists. According to Winslow, who thought that "to move any part . . . all the muscles belonging to it must cooperate," the want of action of the antagonists is in many cases supplied by the weight of the part to which they are fixed or by additional weight. This would mean that when gravity is acting on a limb or a weight is being lifted the antagonists do not act. Therefore, the only time that the antagonists might act is in unopposed movements when gravity is not acting. I have pointed out in a previous communication[6] that the movements of rotation of the head in the erect position are particularly adapted to determine this point, as they are unopposed and not acted on by gravity, and that in rotation of the head by one sternomastoid no contraction can be felt or seen in its antagonist, the other sternomastoid.

In some unopposed movements, which are required to be suddenly stopped, the antagonists certainly do act, but not in opposed movements, as every one experiences when he makes a great effort to lift an empty can which he thinks is full of water, with the result that he lifts it suddenly much higher than was intended.

Professor Sherrington[7] has shown by numerous experiments that electric stimulation of the excitable cerebral cortex not only produces a definite movement by causing contraction of the muscles directly taking part in the movement, but also produces corresponding relaxation of the antagonists by inhibiting their tone, and this occurs with even minimal stimulation.

But perhaps some may say, what does it matter whether the antagonists contract or relax, and does any practical use come from the knowledge? Apart from the dictum that every observation which is correct is worth recording, I do consider that this question of the relaxation of the antagonists is even of practical use to us. It is sometimes very difficult to get a patient to relax certain muscles which we wish to examine, as, for instance, the deltoid muscle—an abductor of the shoulder—when we may wish to know whether the patient is able to abduct the humerus or not, or whether the inability to move the shoulder is due to a rheumatic joint. For this purpose it is only necessary to ask the patient to put the adductor muscles into action, and to strongly adduct the humerus against resistance, when the deltoid will be relaxed. The muscle can then be freely moved between the finger and thumb, and on then telling the patient to abduct his humerus it will be possible to tell at once whether the muscle is capable of contraction or not.

Another use of this knowledge of the relaxation of the antagonists is that in a certain class of cases this relaxation of the antagonists which should normally occur does not do so. About five years ago I described the following condition which occurred in a case of functional paralysis in a girl: She had partial hemiplegia, and when she was told to extend the affected elbow against resistance, in place of the extensor muscles contracting, and the antagonists—biceps, brachialis anticus and supinator longus—relaxing, the antagonists actually contracted first, and the first movement took place in the biceps and supinator longus. This was followed by contraction of the triceps and again by the biceps, giving rise to the to-and-fro hesitating movement which is so characteristic of attempted movements in functional cases.

Since seeing this first case I have come across many cases of functional paralysis showing the same inability to inhibit the antagonists. This condition can also be well seen in the knee; for this purpose the patient lies with the face downward and the leg is put at right angles to the thigh and the patient is directed to extend the knee against resistance. Normally the hamstrings should be relaxed at once, but in these cases these muscles can be seen and felt to contract along with the extensors.

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[4] Arch. de Physiol., 5th series, I, 1889.

[5] Arch. de Physiol., 5th series, II, 1890

[6] Croonian Lectures, 1904, p. 54.

[7] Proc. Roy. Soc., vol. lxxvi, B., 1905.

In the ankle joint the same thing can be seen, by telling the patient to dorso-flex the ankle against resistance. In a normal person the antagonists—the calf muscles—would be relaxed, but in these cases the Achilles tendon can be felt to tighten in place of being relaxed. In all these cases it is necessary for the observer to fix the limb and prevent it moving; otherwise, as the joint is extended or flexed, the antagonists may be passively drawn on and give the impression that their muscles are actively contracting.

What, then, is the significance of this action of the antagonists? The first time that I observed this contraction of the antagonists was seven years ago, in the case to which I have already referred, and which I considered to be hysterical or functional and in which there were no signs of organic disease of the nervous system. It has been considered by some observers, notably by Buzzard, that some of these cases of functional paralysis may be the first stages of disseminated sclerosis, and I have been waiting to see if any of these cases should eventually shows signs of this disease. I have lately had the opportunity of seeing again my first patient, and I find that she does not show after seven years any symptom of sclerosis. There is no nystagmus, no intention tremor, no increase of the deep reflexes and the plantar reflex is of the flexor type.

As I have never seen this condition in disseminated sclerosis or in any other organic disease of the nervous system I consider it to be a symptom of functional disease as opposed to organic. Moreover, I look on this condition as probably the first stage of what is known as hysterical contracture. In hysterical contracture all the muscles—the flexors as well as the extensors—are in a state of tonic contraction, so that the limb is rigid and resists any movement either by flexion or extension. It seems probable that if this intermittent contraction of the prime movers and the antagonists were to become permanent we should have the condition of tonic contraction of all the muscles which goes to produce a general contracture. I have observed that under appropriate treatment, isolation and faradization, this undue action of the antagonists gradually passes off and the muscles return to their natural condition with relaxation of the antagonists when any voluntary movement is performed.

In relation to this condition of the contraction of the antagonists I would call attention to some observations of Sherrington,[8] who, as I stated above, has found that when any particular movement, such as flexion of the elbow, is produced by electrical stimulation of the motor area in the cortex of the monkey, the antagonists are not only relaxed, but their tone is diminished. Recently, however, he has found that under the action of strychnin or of tetanus toxin the antagonists are not relaxed, but, on the contrary, the inhibition which usually takes place is converted into an excitation. We thus have synchronous excitation of antagonistic muscles, and this explains the simultaneous contraction of large inharmonious groups of muscles in strychnin convulsions.

Another point of interest is that in both strychnin and tetanus-toxin poisoning, and as also in functional conditions, the character of the convulsive attacks which are liable to occur is that of overaction of the extensors producing the well-known symptom of opisthotonus and forming in the latter condition the hysterical *arc en cercle* of Charcot and his school. I do not wish to push the analogy too far, but I would merely point out that it is curious that the two conditions in which we obtain the absence of the inhibition of the antagonists and also the presence of convulsive attacks in which the extensors of the spine are strongly involved, are obtained in functional (i. e., hysterical) cases, and also in poisoning by tetanus toxin and strychnin. I suppose that in each case the cause is a loss of control.

According to Sherrington, tetanus and strychnin poisoning "work havoc with the coordinating mechanisms of the central nervous system because in regard to certain great groups of musculature they change the reciprocal inhibitions, normally assured by the central nervous mechanism, into excitations." Sherrington thinks that the reactions elicitable from the cortex cerebri under strychnin are due not to the action of this agent on the cortex but by alterations produced in the spinal and bulbar centers on which the cortex acts. He also states that in other fields of action, as in the arcs of purely sensual and perceptual level, one cortical element may inhibit another cortical element. It seems more probable that in so-called hysterical paralysis the loss of control takes place in the cerebral cortex rather than in the spinal cord and that this loss of control transforms the inhibition of the antagonists into excitation of these muscles.

We have now to sum up the various muscles taking part in a movement and to consider where in the nervous system these muscles are linked together.

We may have, therefore, in any single movement such as the closure of the hand the following classes of muscles taking part: The prime or principal movers, the flexors of the fingers and thumb; the synergic muscles, the extensors of the wrist; and the fixation muscles, the triceps and biceps. The principal movers frequently consist of two or more muscles, and these muscles, as in the case of the flexors of the elbow and of the extensors of the hip, come into action in a definite order according to the amount of work required to be performed, and, further, it seems that the will has no power to alter this order or to make a muscle act out of its turn (except perhaps by trained exercises). Again, in those muscles which have two or more movements by passing over two or more joints, the synergic muscles come into action at the same time as the principal movers, and here again the will has no power to prevent these muscles acting or to leave them out of the list. Lastly we have the fixation muscles, which fix the joint or joints intervening between the joint under examination and the trunk and which do not come into action until a certain pressure and displacement has been brought to bear on the joint.

The question which we have now to consider is in what part of the nervous system are these groups of muscles linked together as to form a movement? There are two places where this may take place—in the spinal cord and in the motor cortex. Now, if we start from the muscles and follow up the motor nerves, where in the nervous system is the first station where such an arrangement of cells exists by which the ultimate component muscles can be combined to form one movement?

It has been shown by the experiments of Sherrington and of May that in the spinal cord coordinated movements can be obtained reflexly in the monkey by stimulating the posterior roots, or the different areas of skin supplied by these roots. According to Sherrington,[7] the inhibition of the antagonists which occurs on stimulation of a peripheral nerve or by excitation of the cortex cerebri, appears in both cases with some likelihood to lie in an internuncial mechanism—synapse or neurone—between the afferent and efferent neurones. He, therefore, thinks with Exner[9] that in the cortical movements the inhibitory phenomena have their chief seat in the spinal mechanisms though elicited from the cortex. Sherrington and Hering also found on stimulating the cut across the internal capsule that the spot where the triceps was inhibited corresponded exactly to the place where the biceps was stimulated to contract.

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[8] Proc. Roy. Soc., 1905, vol. B., 76.

In favor of the lowest station for cortical movements being in the spinal cord and not in the cortex are the following considerations: There is a mechanism in the cord by which muscles can be coordinated to produce definite movements and by which their antagonists can be inhibited. Coordinated movements with inhibition of the antagonists can be obtained from stimulating the internal capsule similar to those from the cortex cerebri. It is not possible to produce contraction of single muscles by stimulation of the cortex or internal capsule.

Also in a previous communication[10] I have described a case of hemiplegia in which the patient had the power of grasping but had no power to extend the wrist or to extend the elbow in prime movements. When, however, he grasped an object the extensors of the wrist and the extensor of the elbow were put into action, as synergic and fixation muscles, although they could not be made to contract as prime movers. In this case all the muscles taking part in the movement of grasping, even the fixation muscles, were coordinated into action, but these same muscles were paralyzed, when they took part in another movement, where they were prime movers. This showed that these muscles were coordinated at some point below the internal apex.

Further it was found by Ferrier that the coordinated movement of clenching the fist, in which the flexors of the fingers and thumb and the extensors of the wrist took part, could be obtained from stimulation of the motor cortex in the monkey, and Sir Victor Horsley and myself also found the same movement from stimulation of the internal capsule in the monkey.

It hase been considered by some observers—among others by O. Foerster—that this linkage of the ultimate components of a movement takes place in the motor cerebral cortex and that single muscles and not movements are represented in the cortex. This is a doctrine with which I can not agree, as I hold fast to the opinions of John Hunter and Duchenne and particularly of Hughlings Jackson, that "nervous centers know nothing of muscles; they only know of movements."

If the motor cortex were the lowest station, where these muscles are linked together to produce one movement, it would hardly be possible to get the simultaneous action of the flexors of the thumb and fingers together with the synergic action of the extensors of the wrist from stimulation of the internal capsule; and if every combination between different muscles had to be arranged in the cortex and impulses had to be sent from the cortex to each separate muscle the number of fibers required to transmit the various combinations would be much more than is provided for by the internal capsule and the pyramidal tracts.

It seems to me that all the evidence is in favor of the linkage of the ultimate constituents of a movement being in the spinal cord. It has been shown by von Monakow[11] and by Schafer[12] that the pyramidal fibers end in the gray matter at the base of the posterior horns and not in the anterior horns, as was formerly thought, and that probably there exist intermediate cells between the ending of the pyramidal fiber and the anterior cornual cell, and that these have the power to bring about associated movements. A clinical fact which throws light on this subject is mentioned by Foerster[13] as occurring in locomotor ataxia, and it is a condition which I can corroborate. In cases in which there is loss of the sense of position in the upper limbs, if the patient be asked to clench the fist with the eyes open he can do so in a normal manner, but if he tries to do it with the eyes closed the wrist will be flexed at the same time, owing to the want of action of the synergic extensors of the wrist. The reason of this seems to be that the proper combination of the principal movers and of the synergic muscles can not take place if the posterior cornua are affected as they are in some cases of tabes, and the faulty position has to be rectified when the patient has his eyes open by a voluntary extension of the wrist. This, I think, is evidence that the lowest station where these muscles are linked together for a voluntary movement is in the spinal cord. Whether the mechanism by which these voluntary movements are produced is identical with that used for reflex movements is, I think, uncertain.

It therefore seems probable that the mechanism by which the muscles taking part in a single movement are linked together, is situated in the cells of the posterior cornua of the spinal cord, which cells are acted on by impulses from the excitable cerebral cortex. Take, for instance, the action of supination of the foramen. If only a weak action is required as in simply moving the limb, the impulse coming to the posterior cornual cells is weak, and these cells send a message to the anterior cornual cells of the supinator brevis only. If stronger action is required, a stronger impulse is sent to the posterior cornual cells which stimulate the anterior cornual cells of the biceps, and at the same time those of the triceps which act synergically to prevent the elbow from being flexed by the biceps. If a stronger movement still is required the fixation muscles, viz.: the adductors of the shoulder are brought into action by the posterior cornual cells to prevent the humerus being drawn away from the trunk by the very strong pressure to be overcome.

A very good simile is that of an engine room on board an ocean liner. The captain on the bridge sends down messages to the engine room and his orders are put into action by the engineer, but the captain has nothing to do with the mechanism of turning on the particular steam cocks, etc. The captain also gives messages to the man at the wheel, who puts in action the steam steering gear. The captain on the bridge represents the cerebral mechanism, including the motor area, and the engineer represents the posterior cornual cells and turns on the proper amount of steam. The captain does not know what is going on in the engine room, except by his orders being properly carried out, and likewise the brain knows nothing about how the movements are done. If the ship have twin-screws and be driven by turbines, then the engines for going astern will constitute the antagonists to the prime movers for going ahead. The rudder will represent the synergic muscles, and if it be required to turn the ship to the right the rudder will be used to counteract the action of the right screw, which is not required. If the rudder does not act the ship performs a movement, which the captain did not intend, and if the synergic muscle be paralyzed the movement, which the brain ordered, is wrongly carried out, and neither the captain nor the brain knows that it will happen, as the block takes place either in the engine room or at the periphery from the breaking of a screw shaft, i. e., in the anterior horns or in peripheral nerves.

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[9] Pflüger's Arch., xxviii.

[10] Croonian Lectures, 1903.

[11] Arch. für Psych., 1895, Bd xxvii.

[12] Proc. Physiol. Soc., Jour. of Phys., 1899, xxiv.

[13] Die Physiologie und Pathologie der Coordination, 1902.

On the other hand, if the mechanism for coordinating the muscles took place entirely in the brain, it would mean that the captain would have to manage all the machinery of the engine room—which would have to be on deck—and would himself have to turn on the necessary steam cocks, and at the same time he would have to steer the ship himself.

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DISCUSSION.

Dr. Charles K. Mills, Philadelphia: Dr. Beevor's illustration of the manner in which movements occur and are coordinated is an appealing one, but at the same time (as in all our efforts to illustrate problems of philosophy or biology) by comparison there may be present some little source of fallacy. The cerebral cortex, I think, at least takes part in the regulation of the manner in which the movements which are coordinated and are arranged for outward expression in the spinal cord occur. Dr. Beevor has by his presentation of the subject of the non-relaxation, or action contrary to intention, of antagonistic muscles in hysterical subjects, given us a valuable addition to our methods of making a diagnosis of hysteria from organic disease.

Dr. F. X. Dercum, Philadelphia: While familiar in a way with Sherrington's results, I was not prepared for the beautiful exposition of muscular movements to which we have just listened. The fact that in a hysterical palsy or hysterical contracture the opponent muscles do not relax is of great practical value—a sign which, like the Babinski sign, will prove useful in differentiating between functional and organic palsies. In regard to the localization of the co-ordinating function, I am inclined to accept Dr. Beevor's view, that the cortex represents the motion only and has nothing to do with the muscles.

What rôle does Dr. Beevor assign to the cerebellum in this beautiful play of action between the cortex and the associations in the spinal cord?

Dr. Hugh T. Patrick, Chicago: There is one muscular sign which Dr. Beevor was the first to observe and describe, that is, the excursion upward of the umbilicus in some cases of paraplegia. Within a week I have had opportunity to observe it in two cases. In one case the sign was not particularly useful because the sensory symptoms made the spinal localization easy; but in the other case there were no sensory symptoms, and the only means of ascertaining the level of the cord where this lesion was, causing complete paraplegia, was what, I believe, Dr. Beevor calls the umbilicus sign. In a severe lesion of the cord at about the tenth dorsal segment, of course the muscles of the abdomen above that level are not paralyzed, and those below that level are. Consequently, with the patient recumbent, if the arms are folded across the chest, and the patient raises the head off the pillow, or perhaps a little better attempts to raise the shoulders, the recti muscles above the umbilicus contract, the recti muscles below can not contract and the umbilicus moves upward one-half an inch, three-fourths of an inch, even an inch. In a case in which the sensory symptoms are not so distinct as to make the level apparent, this sign practically settles the localization. For instance, in a case of spinal tumor with sufficient pressure on the cord to cause paraplegia, with no marked anesthesia, but with imminent danger of destruction of the cord, and with no deformity whatsoever, this Beevor's umbilicus sign tells us just where the tumor is, where the incision should be made, which laminæ are to be removed to expose the tumor.

Dr. Morton Prince, Boston: I recall a number of facts of which Dr. Beevor has not spoken, which are entirely in accord with his main proposition, that is, that this linking together, this association at least, of these movements, is to be found in the spinal cord rather than in the brain. This association, this co-ordination of movements in a certain part of the nervous system, reduced to its simplest terms, is in the final analysis memory.

Since the great classical work of Herring we all know that memory is not simply a conscious attribute, but an attribute of all living matter, of a cell, and the spinal cord as well as of the brain; and therefore, when Dr. Beevor points out that this linking together may be in the spinal cord in such a way as to be reproduced on a certain stimulus from the brain, all he means to say, of course, is that the spinal cord possesses memory, which is well known. The memory of these primary movements and these synergic movements, and of these movements which are a part of all organic matter, is particularly within the function of the spinal cord. Witness the classical experiment of the movements obtained by stimuli applied to a decapitated frog, which is nothing more than the reproduction of these primary and synergic movements; also the experiments of Charington and another on the brainless dog, in which they obtained movements of running, jumping and leaping, all representing these movements which Dr. Beevor has explained, and which, therefore, must be organized and linked together as memories in the spinal cord or in other ganglia. We have a mechanism by which this all can take place in the center below that of the brain; and this fact seems in harmony with the fact that so very few fibers coming down through the foraminal tract can produce this vast variety of movements which we know emanates from below, from the cord. Dr. Beevor's theory of that particular phenomenon which he found in hysteria, namely, the contraction of the antagonistic muscle from lack of inhibition of that antagonistic muscle in hysteria, is entirely in accord with the entire lack of inhibition observed in hysteria.

Dr. William G. Spiller, Philadelphia: I think that in associated movements in another sense, conclusions confirming Dr. Beevor's findings might be drawn. Where, for example, the left upper limb is paralyzed and the man has little control of it, yet there is occasionally seen an associated movement of the right and left upper limbs; as, for example, when the patient closes the right hand, the left closes involuntarily. It is reasonable to believe that associated movements, especially those of a reflex character, at least in part, depend on centers below the cortex, as it is produced even when the right side is cut off from the brain. Goltz's dog ran after the cerebrum was removed. Babinski has stated that it is common in hysteria for the antagonistic muscles to be contracted. Does Dr. Beevor regard that contraction of the antagonistic muscles which he says occurs in hysteria, as the result of suggestion? Babinski holds that all hysterical phenomena are produced by suggestion.

Dr. D. I. Wolfstein, Cincinnati: I once saw Oppenheim differentiate a case of multiple sclerosis from hysteria by the suspected ankle clonus which resulted. The other physicians had considered the movements that they got on the plantar portion of the foot as a distinct dorsal ankle clonus, whereas Oppenheim showed that the movement was upward instead of downward. It would be interesting to know whether that has anything to do with the innervation from the cortex. It seems to me that we must invest the cortex cerebri with an intelligent controlling influence.

In the case of the decapitated frog, when we take a piece of paper and wet it with acid and put it on the back, and see the frog make apparently intelligent motions—just as intelligent probably as if it had a cortex left—what we do see is that there is an excess of somewhat uncontrolled motion resulting in the frog's efforts to liberate itself from the irritation; and it seems to me that the rôle of the cerebrum would be the proper gradation of the exact amount of movement, and the exact amount of force, that is required in stimulating the antagonists and protagonists to produce the proper action.

Dr. H. A. Tomlinson, St. Peter: In my study of the reflexes in newborn babies, I made some observations that tend to confirm the conclusions of Dr. Beevor. In the newborn child the muscles of prehension and locomotion are flexed, and the extremities are flexed and adducted, while the trunk muscles are relaxed. Combinations of reflexes are begun by bringing into play the synergic muscles, then the fixation muscles, and finally the extension or antagonistic muscles. In all coordinate combinations of the reflexes it is fixation and extension that accomplish the movement; so that what I have described as the sequence in the building up of a compound reflex, Dr. Beevor has observed as the sequence in the carrying out of single muscular movements in the adult.

Dr. M. Allen Starr, New York: I consider the matter of differentiation between the organic and the functional type of movement a very valuable point in connection with Dr. Beevor's observation. Possibly his observations have a tendency to confirm a position advanced in 1904 by Lapinsky in the *Deutsche Zeitschrift für Nervenheilkunde.* We have always been taught that each group of cells in the cord is related to a muscle, and that when that muscle moves that one group of cells is called into play. Lapinsky took the position that each group of cells in the spinal cord is not related to a muscle, but to a movement; and that therefore, when I flex my fist I do so by sending a cortical impulse down through the pyramidal tract to a group of cells, which group of cells is thrown into activity and innervates the various muscles; and he substantiated this position by citing the well-known fact that a single group of cells sends out its motor neurons to the anterior motor nerve roots; those motor nerve roots split up in the various plexuses; consequently a given group of cells of the spinal cord sends out impulses to a great number of different muscles. I have seen no reference to this interesting theory, opposed, as you see, to all our doctrines of the relations of spinal functions, and the relations of groups of cells to groups of muscles; but it seems to me important in connection with these observations of Dr. Beevor, for it supplies us immediately with the spinal mechanism which will explain the action of these various muscles without forming a connection between the pyramidal tract and the group of cells in the cord—a hypothetical group of cells in the posterior horns of the cord which he brings in—hypothetical, because we do not know of groups of cells in that portion of the tract. Therefore, this theory of Lapinsky would substantiate in that way Dr. Beevor's conclusion, giving us a physico-anatomic basis for the findings that Dr. Beevor has made from the physiologic side.

Dr. Charles K. Mills, Philadelphia: Taking Dr. Beevor's illustration of the captain and the engineer and the machinery; has not a given region of the cerebral cortex the power, so to speak, to elect that a simple movement, a movement less simple, a complicated and a more and more complicated movement, shall be performed by the machinery, whatever it is, in the lower levels of the nervous system; and if this be the case in the sense in which we ordinarily use our words in describing cerebral localization, do not given regions of the cerebral cortex even represent the prime and synergic and antagonistic and all of these coordinated movements? That seems to me the crucial question in this discussion.

Dr. Julius Grinker, Chicago: Has Dr. Beevor included in his beautiful experiments the involuntary contractions of single muscles and the disorders of associated movements which are regular phenomena of Sydenham's chorea? Most writers on chorea place the disease either in the cerebellar cortex or in the cerebrum. Otto Foerster, who has made an extensive study of the motor phenomena of chorea, places the disorder in the cerebellum. He says that whenever a movement is conceived in the cortex, two impulses are sent out, one through the pyramidal tract (this neuron arborizes around the anterior horn of the cell) and another impulse is sent by way of the cerebellum, to which organ he assigns the rôle of coordinating the movement conceived in the motor cortex. Both movements reach the same cell, one from the cortex of the cerebral motor area, the other somewhere from the frontal lobe by way of the cerebellum and into the anterolateral region, eventually arborizing around the motor cell. He explains chorea as a disorder of the cerebellum which frustrates the plans of the voluntary impulse by either producing a useless movement, namely, contracting the antagonists rather than the so-called agonists or the synergists; the result being just exactly the opposite of what was intended; or, he thinks possibly, the impulse is side-tracked and some other muscles than those intended, contract. Of course he is unable to substantiate the opinion by pathologic proof.

Dr. Archibald Church, Chicago: I believe that the so-called spurious foot clonus of hysteria may bear on the conclusions in Dr. Beevor's paper. In such cases there is always a contraction of muscles on the front of the leg when developing the clonus. In organic clonus, as from a spinal or cerebral lesion, I have failed to see the participation of the muscles on the front of the leg; and Dr. Beevor's exposition seems to substantiate my observation as to the participation of antagonists in this particular hysterical condition. I have noticed that the primary attempt of children in grasping an object is one of extension of the wrist, and I have thought this a reversionary element, that extension must precede prehension, but Dr. Beevor's wonderfully lucid and clear exposition would indicate another application of this idea of the orderly arrangement of muscular action in the simplest movement.

Dr. Albert E. Sterne, Indianapolis: We have always been, I believe rightly, accustomed to consider the cerebral cortical centers as those which originate impulses. The centers lower down in the spinal axis are in their functions probably wholly inhibitive and guiding. We must not forget that in the scale of evolution the centers high up are those which gain in dignity, and that the centers which we commonly look on as being the lower centers are those which in the lower type of animals come into greater prominence. It seems to me that it is but natural in the process of evolution that much of the function which is present in lower animals (practically an automatic function) should exist to a very great degree in human beings. I believe that the theory and the application of the theory which Dr. Beevor has placed before us may well embrace the mass of known facts that we have before us, and I feel as nearly sure as possible, that most known phenomena will fit in with the ideas presented in Dr. Beevor's most interesting and remarkable paper.

Dr. Charles E. Beevor: I do not want to bring in the subject of cerebral movements, but to consider exclusively one single movement; therefore, I have not taken up the consideration of the combination or coordination of several movements, such for instance, as we find in the act of walking. Considering one movement only, the question is where the muscles are joined together and combined to form this movement, whether it is in the spinal cord, or whether it is in the cortex. I always considered it in the spinal cord until I read that matter up and found that some people thought it might be in the brain. If it is in the brain or cortex you ought to get a single movement of the single muscle by itself, that is a movement of the biceps without the movement of any other muscle; but I have never seen that occur.

Then the question is with reference to a single movement. Messages are sent down from the cortex. I agree with Dr. Mills that the cortex has the power of combining movements; but it seems to me that in a single movement like extension of the thumb, the muscles are all combined together in the spinal cord, and especially in the posterior horns, and that a message sent down is not sent to every individual muscle, but to a set of the cells of the posterior horn, which has the power of bringing in muscles one after another, according to the amount of stimulation sent down; but any combination of movements would necessarily take place in the cortex to start with. It would otherwise be necessary to send down a vast multitude of fibers; you would want to send down a fiber to the flexors of the finger, and another to the extensors to the wrist and to the fixation muscles; if you consider the various combinations, a pyramidal tract and internal capsule of immense size would really be necessary. The captain sends down one message, "Go ahead;" he does not tell the engineer how much steam power to use, nor does he attend to any of the details; and all the details are attended to in the engine-room and elsewhere.

Of course I have not taken the cerebellum into account, because I have only taken a single muscle and not a combination. The cerebellum is the center where movements of balance take place, but you can not balance with only one muscle.

I do not know anything about the corpus striatum. As to whether it is excitable or not, people differ. In some work I did with Victor Horsley some years ago, we stimulated the corpus striatum with negative results. We found that if we got near to the internal capsule we got movements, and the movements were precisely the same as we got from the internal capsule only less in degree, and weaker and weaker the further from the internal capsule we got.

Therefore we concluded that there is no evidence that the corpus is excitable, and the result was really due to the stimulation of the internal capsule. Dr. Prince and I agree that it may be a question of memory. I agree also that want of inhibition is the great point in hysteria.

At a meeting in Berne I saw a dog without any cerebrum running about, but that can not occur with a monkey. Goltz used a dog and Fourier used a monkey, and of course they could not agree. I think the monkey is nearer to man than he is to the dog. I think that want of control not suggestion is concerned with hysteria. The movements of the frog trying to rub off an irritating substance is a matter of the coordination of several muscles—a matter which I have not been considering.

I studied a number of newborn children to see whether in the youngest child coordination took place—that is, whether when the child grasps, the hand goes round or not, and I think in about half the cases the arm muscle went around, and in the other half it did not. Dr. Robinson showed years ago that you can hang up a newborn child by the hands and it will hold on to a rail.

I once thought that coordination of muscular movement takes place in the anterior horns, but I have come to the conclusion that probably it takes place in the posterior horns.

In regard to chorea I have not induced the antagonist to act in the same way. But there again it is a question of combined movements and not one single movement. No doubt the patient performs the wrong movement, but it is a wrong movement as a rule, and not an antagonistic movement.

I have observed that the muscles in front of the leg contract in ankle clonus, as Dr. Church observes.

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A STUDY OF 171 CASES. SUGGESTIONS FOR LEGISLATIVE AND OTHER MEASURES. THE QUESTION OF RESPONSIBILITY.*

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During the last seven years I have been collecting cases of intoxication with morphin and cocain. The majority are cases observed in hospitals. Confining myself to the effect of the drugs on the cerebral functions, and especially on the mentality, I am able to divide the 171 cases into two groups, viz.: 80 of acute and 91 of chronic poisoning. The first group comprises 60 cases of morphin, 15 of cocain and 5 of mixed intoxication. The second group is composed of 70 morphin habitués, 10 cocain habitués and 11 patients with mixed intoxication.

The permanent effect of the poison did not depend altogether on the mode of its administration or amount absorbed. For a normal adult 6 or 7 cgm. hypodermically constitute a toxic dose, but individual susceptibility should be taken into consideration. Cases of recovery have been reported even with doses of 75 cgm. of morphin.

Habit is very rapidly established.

FIRST GROUP.—A. ACUTE INTOXICATION WITH OPIUM OR MORPHIN (SIXTY CASES).

In this category are placed patients who showed signs of intoxication even after one dose of the drug. When the dose is not immediately fatal, there is at first some agitation without delirium. The patient is loquacious. The mental faculties are stimulated. There is a feeling of beatitude, of euphoria. Soon heaviness of the head and vertigo make their appearance. The latter is followed by somnolence. The general sensations and special sensorium become obtunded, the patient enters into a profound sleep during which death may ensue. In grave cases the respiration is slow, viz., five or six respiratory movements a minute. The pulse is small, irregular; the face is congested, the temperature is lowered. Urine decreases in quantity. Convulsions occur during the last period. In five cases somnolence was absent and the agitation of the first period persisted and was accompanied by a delirium with terrifying hallucinations of sight and hearing.

In seven cases the terminal coma gradually disappeared. The patients regained consciousness and apparently recovered, when at the end of 12, 24 and 36 hours a new attack of coma supervened with rapid death. It is probable that a new absorption of the poison occurred which during a number of hours remained inactive in some portion of the digestive tract.

Recovery may follow even after long hours of coma. During convalescence are observed vertigo, mental hebetude, temporary aphasia or blindness, and many intelligent probably as if it had a cortex left—what we do see is that there is an excess of somewhat uncontrolled motion resulting in the frog's efforts to liberate itself from the irritation; and it seems to me that the rôle of the cerebrum would be the proper gradation of the exact amount of movement, and the exact amount of force, that is required in stimulating the antagonists and protagonists to produce the proper action.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Dr. H. A. Tomlinson, St. Peter: In my study of the reflexes in newborn babies, I made some observations that tend to confirm the conclusions of Dr. Beevor. In the newborn child the muscles of prehension and locomotion are flexed, and the extremities are flexed and adducted, while the trunk muscles are relaxed. Combinations of reflexes are begun by bringing into play the synergic muscles, then the fixation muscles, and finally the extension or antagonistic muscles. In all coordinate combinations of the reflexes it is fixation and extension that accomplish the movement; so that what I have described as the sequence in the building up of a compound reflex, Dr. Beevor has observed as the sequence in the carrying out of single muscular movements in the adult.

Dr. M. Allen Starr, New York: I consider the matter of differentiation between the organic and the functional type of movement a very valuable point in connection with Dr. Beevor's observation. Possibly his observations have a tendency to confirm a position advanced in 1901 by Lapinsky in the *Deutsche Zeitschrift für Nervenheilkunde*. We have always been taught that each group of cells in the cord is related to a muscle, and that when that muscle moves that one group of cells is called into play. Lapinsky took the position that each group of cells in the spinal cord is not related to a muscle, but to a movement; and that therefore, when I flex my fist I do so by sending a cortical impulse down through the pyramidal tract to a group of cells, which group of cells is thrown into activity and innervates the various muscles; and he substantiated this position by citing the well-known fact that a single group of cells sends out its motor neurons to the anterior motor nerve roots; those motor nerve roots split up in the various plexuses, consequently a given group of cells of the spinal cord sends out impulses to a great number of different muscles. I have seen no reference to this interesting theory, opposed, as you see, to all our doctrines of the relations of spinal functions, and the relations of groups of cells to groups of muscles; but it seems to me important in connection with these observations of Dr. Beevor, for it supplies us immediately with the spinal mechanism which will explain the action of these various muscles without forming a connection between the pyramidal tract and the group of cells in the cord—a hypothetical group of cells in the posterior horns of the cord which he brings in—hypothetical, because we do not know of groups of cells in that portion of the tract. Therefore, this theory of Lapinsky would substantiate in that way Dr. Beevor's conclusion, giving us a physico-anatomic basis for the findings that Dr. Beevor has made from the physiologic side.

Dr. Charles K. Mills, Philadelphia: Taking Dr. Beevor's illustration of the captain and the engineer and the machinery; has not a given region of the cerebral cortex the power, so to speak, to elect that a simple movement, a movement less simple, a complicated and a more and more complicated movement, shall be performed by the machinery, whatever it is, in the lower levels of the nervous system; and if this be the case in the sense in which we ordinarily use our words in describing cerebral localization, do not given regions of the cerebral cortex even represent the prime and synergic and antagonistic and all of these coordinated movements? That seems to me the crucial question in this discussion.

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Habit is very rapidly established.

FIRST GROUP.—A. ACUTE INTOXICATION WITH OPIUM OR MORPHIN (SIXTY CASES).

In this category are placed patients who showed signs of intoxication even after one dose of the drug. When the dose is not immediately fatal, there is at first some agitation without delirium. The patient is loquacious. The mental faculties are stimulated. There is a feeling of beatitude, of euphoria. Soon heaviness of the head and vertigo make their appearance. The latter is followed by somnolence. The general sensations and special sensorium become obtunded, the patient enters into a profound sleep during which death may ensue. In grave cases the respiration is slow, viz., five or six respiratory movements a minute. The pulse is small, irregular; the face is congested, the temperature is lowered. Urine decreases in quantity. Convulsions occur during the last period. In five cases somnolence was absent and the agitation of the first period persisted and was accompanied by a delirium with terrifying hallucinations of sight and hearing.

In seven cases the terminal coma gradually disappeared. The patients regained consciousness and apparently recovered, when at the end of 12, 24 and 36 hours a new attack of coma supervened with rapid death. It is probable that a new absorption of the poison occurred which during a number of hours remained inactive in some portion of the digestive tract.

Recovery may follow even after long hours of coma. During convalescence are observed vertigo, mental hebetude, temporary aphasia or blindness, and many other physical manifestations, including such as constipation, vomiting, retention of urine, albuminuria and myosis.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

Fifty-two patients in my series of acute intoxication recovered. Thirty-five presented for weeks mental disturbances deserving special attention. They showed slowness of thought and difficulty of grasping complicated subjects. Questions had to be repeated a number of times before they could comprehend them. There was striking mental fatigue. All these patients were particularly annoyed by dreams, which in the majority of cases were of a pleasant nature.

These thirty-five patients used about the same amount of opium or morphin as the seventeen who did not present prolonged mental disturbances. Some of them had only one dose, others two or three doses, and still others a daily dose for a week. There was no direct relation between the amount taken and the symptoms. For example, some of the thirty-five patients who presented prolonged mental disturbances used a smaller amount of morphin than those who recovered promptly. The question is, therefore, one of individual susceptibility. Nevertheless, it is well to remember that even one large dose is likely to disturb the mental functions for a period of several weeks.

FIRST GROUP.—B. ACUTE COCAIN INTOXICATION (FIFTEEN CASES).

As soon as cocain enters the general circulation it acts on the brain and spinal cord.

Precordial pain, rapid and filiform pulse, lividity of the face, cold extremities, cold perspiration, Cheyne-Stokes respiration and anuria are the immediate symptoms. The mental manifestations in nine of my cases were mainly excitation, restlessness, loquacity, crying or anger.

In six cases there was a state of depression and a semistuporous condition, accompanied by nausea, tachycardia, mydriasis and abundant perspiration. In all there was a certain degree of vertigo with ataxia in gait and peculiar hallucinations. The latter were visual and tactile. The visual consisted of black insects and rats. The tactile hallucinations were a tingling, pinching and the sense of holding imaginable objects in the hands.

Four of my patients had generalized convulsive seizures without a previous history of epilepsy. The seizures were followed by a semicomatose state, lasting from one to three days.

Nine patients recovered completely. Two died at the end of twenty-four hours and four days, respectively. The first swallowed, with suicidal intent, eight grains of cocain. His cerebral symptoms were stupor and hallucinations. He died in syncope. The other patient, also suicidal, lived four days with [illegible] of extreme agitation, delirium and [illegible]. He died from exhaustion.

The four patients who presented epileptiform attacks, although they eventually recovered, nevertheless for six subsequent weeks suffered from insomnia, anorexia, diarrhea, vertigo and attacks of delirium. One was unable to resume his occupation of office clerk for six months; his memory was deficient and he could not solve the simplest mathematical problems without making mistakes. His intoxication followed two injections of cocain into the gum for some alveolar operation. The dose could not be determined.

FIRST GROUP.—C. ACUTE MIXED INTOXICATION (FIVE CASES).

The intoxication followed external application of cocain (snuff) and internal administration of laudanum (two cases), also a hypodermic injection of morphin (one case) (for relief of an attack of tic douloureux), together with an external application of 10 per cent. cocain to the cheek, which had erosions. Two medical students, suffering from a severe coryza, used a 15 per cent. cocain solution as a spray and ½ grain of morphin internally.

The most prominent symptoms in all five cases was a very marked stuporous state with paroxysms of delirium and visual hallucinations. The tactile hallucinations characteristic of cocain intoxication were absent. Myosis, constipation, anuria, coldness of the extremities and difficult respiration were also present.

When the acute symptoms disappeared, a mental dulness, apathy, remained for two weeks in one case and for seven weeks in four cases. Eventually all the patients recovered.

SECOND GROUP.—A. CHRONIC INTOXICATION WITH MORPHIN AND OPIUM (SEVENTY CASES).

In considering the manifestations of morphinism I made a comparative study of cases of months' and years' duration.

Twenty cases ranged between two and eight months, and fifty cases between two and twenty-two years of chronic intoxication.

The majority of the patients used morphin; some, however, took opium. Among the latter I had eleven men, of whom six took internally and five smoked opium, with five women who smoked opium and six women who drank laudanum daily.

Morphin was used mostly hypodermically, but in some cases also by the mouth. The amount varied from eight grains to fifty grains of morphin, internally or hypodermically, or from three to twelve drams of laudanum. The amount of smoked opium could not be determined.

The effect of morphinism is somewhat different from abstention from morphin or opium. I had the opportunity to study twenty-six cases during the period of abstention. Speaking generally, the ultimate effect of chronic abuse of opium and morphin is practically the same.

The twenty cases in which the intoxication lasted only months and the fifty cases in which the intoxication lasted years presented but slight differences. In the main, the symptoms were identical.

Description.—With each new administration of opium or morphin there is at first a muscular weakness, languor, an imperative necessity for rest; the pulse is diminished in frequency, and the respiration becomes somewhat difficult. Soon, however, the condition changes. A cerebral excitation takes place, the intellectual functions become exalted. In the intervals between individual doses, such patients exhibit the following important symptoms: Intelligence is lowered. Memory is decidedly impaired. The mental energy is weakened. The aptitude for work is lessened. There is a sort of apathy in the patient's thoughts and acts. The moral sense suffers profoundly. The patient loses the sense of obligation to his family, he loses affection for his children, becomes egotistic. His will power is decidedly deficient. One of the patients, a married woman, frequented a disreputable house, not for sexual reasons, but for the purpose of procuring money for morphin. Another woman became a kleptomaniac for the same reason. Not infrequently these individuals commit excesses of all sorts and even crimes. Deception and lies are common. These general symptoms were present in ten cases. In the remaining sixty there were special mental manifestations characteristic of certain psychoses.

Melancholia: The morbid phenomena of melancholia were observed in eight cases. Here the depression with a tendency to suicide was very marked. However, there were also incoherence, some confusion and a mild degree of dementia. The latter symptoms are not characteristic of typical melancholia. It is true that they are found in the period of terminal dementia, but then the suicidal tendency is usually absent.

Mania: Maniacal agitation with apparent lucidity, alternating with periods of depression, was observed in nine cases. Again the condition simulated the manic depressive form of insanity, but the evolution of the symptoms was not characteristic of it.

Delusions: Systematized delusions of a persecutory nature were noticed in only five cases.

Unclassifiable Symptoms: The remaining thirty-eight cases presented symptoms of an unclassifiable nature. Some of them would reveal delusions of an unsystematized nature, fragmentary, fleeting, changing from day to day, from one examination to another. They were mostly of a persecutory type; some of them presented the expansive form. Delusions of erotic nature figured in many cases. Hypochondriacal delusive ideas were absent. Hallucinations were auditory or visual, more of the latter than of the former. Incoherence and confusion were present in all the cases.

Dementia: This was the prominent feature, especially in cases that were free from delusions and hallucinations. There was a childishness in actions and words and demeanor. The general attitude and appearance were those of dementia due to other causes. To illustrate, the patient smiles and laughs without cause or on the least provocation. When spoken to, he looks up astonished; if an answer follows, it has either no relation to the questions asked or it will be considerably delayed. In some cases the patients are extremely talkative and one question is sufficient to start a conversation which does not cease unless you interrupt it. Two patients of my series in very advanced periods of their morphinism (10 and 14 years of continuous use) could talk at least for a half an hour without pausing. The sentences they used had no connection with one another. The dementia in the majority of my cases was mild, especially in those with the unsystematized delusions and hallucinations, but was marked in cases in which the latter were absent.

Physical Signs: The psychic disorder is usually accompanied by physical signs of chronic poisoning, viz.: muscular asthenia, tremor, anesthesia or hyperesthesia, obstinate constipation, impotence, disturbance of micturition, diminution of salivary, sebaceous, gastric, menstrual and spermatic secretions but increase of perspiration, loss of reflexes and, finally, an especial facies. The last appears to be old and wrinkled.

SECOND GROUP.—B. CHRONIC INTOXICATION WITH COCAIN (TEN CASES).

In six of these cases the habit was acquired while under treatment for nasal affections. They used the drug for from three to eight years. Four patients used cocain for a period of from six to ten years. They acquired the pernicious habit by being advised to use at first the snuff and later internally to get relief from migraine and gastralgia.

Psychic Disturbances.—Besides the physical signs, such as tachycardia, pallor of the face and impotence, the patients presented interesting psychic disturbances. Insomnia was a constant symptom in my cases. In such patients there is restlessness and craving for muscular and intellectual activity. The hallucinations seen in acute poisoning are still more marked in the chronic form. They affect the general sensibility, also sight, hearing and touch. The patient feels that the skin is filled with insects, microbes, crystals of cocain. Sometimes he feels electric shocks, cramps or shooting pains. He sees animals, human beings, shadows, colors, change in the size of objects. He hears voices, sounds, noises. When the muscular sense is altered, the patient feels that he is lifted up in space, carried and abandoned. The hallucinations lead to the formation of delusive ideas which are mostly of a persecutory nature. Systematization of these ideas is very rare (one case); they are mostly unsystematized and vague. Alongside of hallucinations and delusions, there is a gradual and progressive decrease of intellectual force and moral sense. The patient becomes indifferent. His instinct predominates. He is filthy. Dementia is the final outcome.

SECOND GROUP.—C. CHRONIC MIXED INTOXICATION (ELEVEN CASES).

All my eleven cases acquired the habit at first in attempts of substituting cocain for morphin and later by using both drugs simultaneously. Morphin was used hypodermically and cocain by the mouth.

The special hallucinatory images mentioned above in connection with cocainism are all present here, in addition to insomnia and delusive ideas, but what characterizes the mixed intoxications is the more rapid development of the intellectual and moral reduction. The dementia appears early when compared with the date of its appearance in isolated intoxications. In one of the eleven cases the patient, a young physician, presented during a period of four years a systematized persecutory delusion concerning his mother and two brothers who conspired against him. Later he included another physician and myself in his delusive idea. The latter was intensified by terrifying hallucinations. He attempted to kill his mother on two occasions. The previous history of the patient did not warrant the diagnosis of paranoia. However, the paranoid delusion rendered him dangerous. He had to be confined in an asylum. There he was entirely deprived of cocain and morphin and he gradually recovered. Six months later he resumed his old habit and again the same persecutory delusion made its appearance. Again he was committed. A sojourn of four months in an asylum removed all the symptoms. At present he is showing evidences of mild dementia, although there is no return to the drugs.

MORBID MANIFESTATIONS OF ABSTENTION.

Several (26) of the morphin and a few (5) of the cocain habitués were kept under observation, while the drugs were entirely and suddenly withdrawn. The following symptoms could be noticed: Both categories of patients presented a picture of extreme suffering; they were restless, full of anxiety, agitated and incapable of listening to others, following a conversation, of reasoning or of reflecting. Delirium and hallucinations were present in some cases, especially in those of mixed intoxication. Some patients would be taken suddenly with chills, accompanied by twitchings. Others showed a tendency to faint. Insomnia was common and persistent. A few of the morphin habitués had morbid impulses. They would suddenly jump out of bed and attack their nurses and relatives or throw objects at them. The cocain habitués continued having the tactile hallucinations, but to a lesser degree than when the drug was used.

The delusional ideas diminished in intensity, but those who presented signs of dementia did not show any improvement in the mental condition. Besides, the physical condition in the majority of the patients became so alarming that occasionally a return to the drugs was absolutely necessary.

In cases of gradual withdrawal there are symptoms of general malaise, of anxiety, of depression. Photophobia and hyperacusis are present; loss of appetite, diarrhea and neuralgia are frequent.

CONCLUSIONS FROM THESE OBSERVATIONS.

A careful analysis of the cases shows that if an attempt is made to find in acute or chronic morphinism and cocainism any of the well-known forms of psychosis, a total failure follows. Some cases may simulate melancholia, mania, manic-depressive insanity and even paranoia, but in none of them can be found the typical pictures of these psychoses.

Outside of the special tactile hallucinations of cocainism, we find in the acute form sometimes a delirious or a stuporous state. An element of confusion always accompanies them. Hallucinations of sight and hearing are frequently present.

In the chronic form, the most important part of the present study, the part which gives us the most concern, we do not find any of the above-mentioned psychoses in their typical forms, but we do find vague manifestations, as delusions of a transient, fleeting and fragmentary character. It is true that at certain periods of their evolution the latter assume the form of systematized ideas and conceptions, reinforced by hallucinatory images, and thus may present a picture of paranoia or other forms of insanity, but the *ensemble* of the condition does not permit us to consider them as such.

A characteristic symptom is the gradually oncoming dementia, which develops very insidiously in the inveterate habitués and increases with years until a complete psychic decrepitude is established. It is this threatening progressive quantitative diminution of mental power that presents the alarming problem for us when we are called on to counsel and render assistance to the community.

When we compare intoxications from other sources with that of our present study we do not find any essential difference. Each agent may add a new special symptom, as, for example, the tactile hallucinations of cocainism, but the fundamental clinical picture in all remains invariably identical. In the acute forms there is a confusion of all sorts of mobile and contradictory conceptions, a dissociation of all elements of normal psychic life. Hebetude, stupor and amnesia follow. These manifestations may be accompanied by hallucinatory images and sometimes superimposed by incidental delirious states. Not infrequently is observed the *"rêve onirique"* on which Régis lays so much stress. That is to say, a dreamy state which is the continuation of dreams occurring during the night. The images seen by the patient in his dreams are confused with the impressions of real life and thus increase the contradiction of conceptions.

In the chronic form all varieties of intoxications invariably lead to the gradual enfeeblement of mentality, viz., dementia.

SUGGESTIONS FOR LEGISLATIVE AND OTHER MEASURES.

The disastrous effect of chronic absorption of morphin and cocain is well known not only to physicians, but also to the laity. The physical and intellectual disintegration to which the pernicious habit leads is a menace to society. The unfortunate characteristic feature of the condition is that when morphin or cocain have been taken for a certain time, they become an imperative necessity to the organism, inasmuch as when being withdrawn the function of each organ is disturbed. The patient seeks then instinctively to supply the want by repeating the initial dose, at first only in small amounts, but later in larger doses. When the habit is established, it is by far more difficult to overcome than that of alcohol. De Quincey, in his "Confessions," states that he used opium for fifty-two years. Four times he attempted to give it up, but only for a short while. Finally he broke himself off forever. "I triumphed," he says, "but infer not, reader, from this word triumphed a condition of joy; think of me as one, even when four months had passed, still agitated, writhing, throbbing, palpitating, shattered."

We can not ignore the fact that while morphinomania or cocainomania used to be known mainly among physicians (according to Lacassagne's statistics over 50 per cent.) and persons coming in contact with drugs by virtue of their occupations, are now spreading to all classes of society. Daily reports of newspapers and statistics prove conclusively the truth of this observation.

In attempting to remedy the growing menace, it should be borne in mind that *morphin is a precious* remedy in certain incurable affections (cancer, for example), accompanied by *atrocious and intolerable pain.* In such cases the patient must be supplied with the drug *ad libitum.*

The struggle, therefore, will be confined to those cases in which the passion for morphin or cocain is acquired outside of painful conditions. In such cases, as is well known, the craving and longing for the drugs develop only after a more or less prolonged period of use. Interference at the proper time, therefore, may be of great utility in the majority of cases.

As *prophylaxis* is the most efficient measure, some legislative acts rigidly enforced will prevent at least the extraordinary propagation of one of the most pernicious habits—which eventually leads to physical and especially mental decrepitude as depicted in the histories of my cases.

In my judgment, no pharmacist or chemical house should dispense the drugs to any person without a physician's prescription. The latter must be written plainly and the order given only once. When a renewal of the drug is necessary, another prescription must be given by the physician. Of course, no attempt should be made by legislature to limit the prescribing physician to a certain dose of the drug or to a certain number of renewals, as it may interfere with the administration of the drugs in cases in which human suffering is intense. This matter should be left entirely to the physician's moral responsibility.

Heavy penalty with imprisonment should be imposed on those who will sell or give away the drugs without regular prescriptions. Heavy penalty with imprisonment should be imposed on those who will forge a physician's prescription.

Besides a legislative prophylaxis there is a medical prophylaxis. Morphinism usually occurs in individuals with a special make-up of their nervous system. Such persons present deficiency of the intellectual and moral faculties. In them the deficient inhibitory power becomes an easy prey for all abnormal tendencies, particularly for morphinism or cocainism. The latter are the result of a neuropathic constitution, the fruit of hereditary tendencies.

In handling such individuals, one should remember Ball's dictum, to wit: "Morphinomania is entered by the door of pain, of sexual passion, of sorrow, also by the door of contagion, viz., imitation."

THE QUESTION OF RESPONSIBILITY.

We have seen above what order of mental disturbances are present in acute and chronic intoxication.

In the *acute* form, mental excitement, delirium and hallucinations with incoherence are the usual psychic manifestations. They resemble, therefore, the symptoms of acute alcoholic intoxication. When a criminal act is committed by an individual who is in a delirious state and has hallucinations, who is then incapable of distinguishing between right and wrong, whose cerebral functions are then in a state of dissociation, such an individual can not be considered responsible for his acts from a medical standpoint.

When the patient is only in a state of mild agitation, without a delirious or hallucinatory state, or in a mildly stuporous condition, the responsibility is complete. Partial responsibility should be admitted when the patient has recovered from the immediate effects of acute intoxication, but remains for weeks, as we have seen in some of my cases, mentally dull, apathetic, with lack of sustained attention and difficulty of comprehension.

In the *chronic* form of morphinism and cocainism the impairment or disappearance of the moral sense, deficiency of the will power and even a mild diminution of intellectual faculties do not entirely exempt a morphin habitué from responsibility; the latter is only partial. When delusive ideas or hallucinations are present, the irresponsibility is total.

When the patient reaches the stage of dementia, even in the absence of delusions, he can not be held responsible for any of his acts.

Sweat Secretion in High Altitudes.—H. Sewall, in *Colorado Medicine*, states that the technical difficulties in the way of determining the relation of altitude to secretion of perspiration are very great. It is commonly stated by those who guess at facts that the circulation in the skin and the activity of the sweat glands increase with the elevation above sea level. Mosso found, on the contrary, that a resting man loses weight more slowly from the skin on the mountains than at sea level. Zuntz found that exercise at a moderately high elevation—1,740 feet—produced more abundant sweating than in Berlin.

REMARKS ON THE FEEDING OF THE HEALTHY INFANT.

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During the last decade the problem of infant feeding has been a peculiarly interesting one in this country. While European writers are fairly well agreed on fundamental methods, there has grown up a system of infant feeding in this country that in its elaboration is unique. This so-called percentage, or American, system has received such universal and unqualified approval among our pediatricians that it seems almost like heresy to doubt its tenets, and yet an overwhelming mass of evidence has appeared in the last few years that to my mind discredits the fundamental principles of that system.

I shall first outline what I believe to be a rational dietary for the first year of life and will then advance briefly some objections to the percentage method. It is important at the start to define the term "healthy" baby, because there is an essential difference between a healthy and a sick baby in its reaction to food. This difference centers in one fact—a normal, healthy infant has a broad tolerance for widely different food mixtures and for varying amounts and strengths of the different food elements, fats, proteids and carbohydrates. On the other hand, a baby that is congenitally below par, or that has been damaged by unwise feeding, or that has a temporary nutritional or digestive disturbance due to some intercurrent infection such as pneumonia, has a narrow range of tolerance for food. The sick baby requires careful dosage of food both as to quantity and composition. The moment a healthy baby is upset it is no longer a healthy baby but a sick one and must be treated as such. A food of a certain quantity and composition that yesterday was adapted to a healthy infant to-day may act as so much poison to the same baby that in the meantime has had an acute digestive or nutritional or constitutional disturbance.

THE QUESTION OF ARTIFICIAL FEEDING.

The most serious question that confronts the physician in the feeding of healthy infants is what to feed a new-born baby that is unable to get mother's milk. Budin, who was second to none in the value of his experience in infant feeding, says: "We, ourselves, and we say it in all sincerity, can not as yet indicate from our personal experience what is the best method of procedure in artificial feeding from the start." In practice he answered the question by making sure that nearly every baby in his care had mother's milk for a time. The value of the latter, even if used only for a short time, can hardly be overestimated.

Practically, it will be found that the great majority of new-born babies will bear well after the second day of life—and no baby should be fed artificially before that time—a dilution of one part of milk with two parts of water, with the addition of a small amount of milk sugar, say one-quarter to one-half an ounce in the twenty-four hours' food. This dilution can be strengthened gradually till the baby takes equal parts of milk and water with one-half to one ounce of milk sugar daily during the second and third months. The proportion of milk is gradually increased, that of water and sugar diminished till toward the end of the first year the child is rarely exceed one quart. After the fifth or sixth month the ability to digest starch is so well established that the diluent of water is replaced by one of the cereal waters, or gruels. In the latter months of the first year additional food is given in the form of broths, strained vegetable soups, beef juice, fruit juice, zwieback, cracker, cereals, etc.

FREQUENCY OF FEEDING.

At no time during infancy is it desirable to feed the baby more often than five or six times in the twenty-four hours, and toward the end of the first year the number should not exceed four. This gives approximately a four-hour interval between feedings, and I believe that this interval, in the great majority of cases, should obtain from the start. It is a well-established fact that the stomach of a baby fed on cow's milk is not emptied till at least three hours after feeding. To feed a child oftener than, say, every three hours necessarily favors retention and the formation of fatty acids and is the cause of much of the indigestion that goes with early artificial feeding. Observation on any normal infant for the first few months of life that is digesting its food well will demonstrate the fact that naturally it will go as long as from three to five hours between feedings. It is a common experience that a baby fed at the breast every two hours will nurse well only every second time, while it can hardly be roused from its sleep the other time. The custom of feeding a bottle baby every two hours, that is still the rule for the first few months, has certainly no foundation in theory, and it can be demonstrated practically in nearly every baby that it is unwise to refill a stomach at the end of two hours when it is only partly empty. It is my experience that babies fed every four hours cry less than those that are fed every two or three hours, for the simple reason that babies cry far more from digestive and nutritional disturbances than from hunger.

THE QUANTITY OF FOOD.

The question of how to feed a baby is only partly solved when we have decided what it shall get and how often; there still remains the great factor of how much the child shall get. Our text-books, unfortunately, give us but little help in this, because they lay every stress on the strength or percentage and not on the total amount of food. A number of continental writers, notably Biedert, Heubner and Budin, have emphasized the great danger of overfeeding and each has attempted to show how to avoid it. It remained, however, for Czerny and Keller to show us just what happens when a healthy baby gets too much milk, and why it happens. This clinical picture of milk overfeeding is not an occasional occurrence—it is the rule. Nearly every baby that is fed milk without some check on the amount given during the twenty-four hours shows it in greater or less degree.

RESULTS OF OVERFEEDING.

When a healthy infant gets more milk than it ought to have it commonly gains for a time at an abnormal rate, say, from eight to twelve ounces a week. This gain in weight is quite regularly followed by a stationary weight unless the amount of food is reduced or changed in a certain way. If the amount of the same food is still further increased there may be another gain, but the child will finally begin to lose. If unchecked the ultimate outcome of this overfeeding is marasmus. This paradoxical loss in weight with an increase in food is accompanied by other signs of a fundamental nutritional disturbance. The child becomes restless, its sleep is broken and it cries a great deal. It becomes pale, flabby and inactive, often rachitic. It has a marked tendency to itching eruptions that vary from the small, rough reddish spots on each cheek to the most extensive universal infantile eczema. It very commonly becomes peculiarly indifferent to its bottle, requiring much coaxing to take it, or in severe cases finally taking only an ounce or two at a time.

This condition of milk overfeeding is always accompanied by a characteristic appearance of the bowel movements which in itself shows that the child has had too much milk. The stools lose their normal yellow color, become pale yellow, or in severe cases have the color and consistency of putty. They are no longer normally moist and soft, but become hard and brittle, so that they will roll from the diaper without leaving it soiled. This condition naturally produces very marked constipation.

TOO MUCH FAT.

Whenever such bowel movements appear it means that the child has had too much milk, or, more properly, too much milk fat, because it has been shown that these bowel movements are composed largely of insoluble fatty acid salts. The resulting acidosis Czerny and Keller consider the cause of the nutritional disturbance that has just been outlined. That the fat alone is the cause of this condition is further shown by the fact that increasing the milk, or the fat alone by adding cream, will heighten the whole clinical picture, while diminishing the fat or eliminating it will produce a return to normal. The proteids and sugar have no part in this clinical picture. This is clearly shown by the fact that these cases improve most rapidly on malt soup, or skim milk, or buttermilk mixtures in which the fat is the lowest, while the proteid and sugar are the highest ever used in infant feeding.

At any time in this chronic process of milk overfeeding the whole clinical picture may suddenly change to one of an acute catastrophe. In many infants these sudden upheavals occur regularly whenever milk is added up to a certain amount. This upsetting, that is so frequent an occurrence in artificial feeding, is manifested clinically by vomiting, indigestion, diarrhea, loss in weight, fever, inability to stand food, especially milk, stupor or restlessness. If the disturbance is severe there are all the evidences of intoxication, including leucocytosis, albuminuria, glycosuria, dyspnea, collapse and especially psychic depression. This condition may vary from a mild indigestion to an intoxication so intense that it is rapidly fatal. The more serious cases occur more commonly during hot weather because the child is already debilitated by the heat, but more especially because it is relatively more overfed because it needs so much less food to maintain its heat and energy.

A METABOLIC DISTURBANCE.

This acute calamity has commonly received the name of gastrointestinal disturbance, summer complaint, summer diarrhea, enterocatarrh, gastroenteritis, gastroenteric intoxication, cholera infantum, etc., and has always been assumed to be due to an intercurrent infection along the gastrointestinal tract. In a series of classical papers appearing in the *Jahrbuch für Kinderheilkunde* during the past six months Finkelstein of Berlin has demonstrated very convincingly that the intoxications that occur in these cases are not due to an infection but to a metabolic intoxication more akin to uremia or diabetic coma, caused by the ingestion of more food than the baby can assimilate. That this theory is a correct one is evidenced by the fact that any degree of indigestion and intoxication can be produced at will in these cases by increasing the food to a sufficient degree, and a return to normal will follow just as certainly when all food is withdrawn for twenty-four or forty-eight hours. Finkelstein has increased the food in several cases without a qualm of conscience, because he knew that a day or two of water-diet would restore the child to its former condition.

It seems to me that in this idea of a metabolic disturbance rather than in a simple infective process we have the only satisfactory explanation for the greater prevalence during the summer months of these digestive and nutritional disturbances that are accompanied by intoxication and have in this a most valuable indication that any infant food must be materially lessened during the hot weather.

This metabolic intoxication follows most naturally and most frequently in the cases of milk overfeeding. Theoretically, then, one would expect the fat to play the chief rôle here as there. These patients, we know from every-day experience, can not take cream nor even whole milk in small quantities for some time, and yet will take skimmed milk almost from the start. A child that is well convalescent can be given a relapse to its former condition by the addition of only a small amount of fat. Finkelstein has shown conclusively that sugar when given in excess, as in buttermilk and malt soup preparations, can produce the same intoxications and, even in small amount, the same relapse, while proteid, whether albumin or casein, can produce neither.

I have dwelt rather at length on these results of overfeeding, because the artificial feeding of healthy infants is a negative as well as a positive procedure. We must see not only that the baby gets enough of each of the food elements, but also that no harm comes to it from unwise feeding. If overfeeding is as important a factor in the causation of digestive and nutritional disturbances as I have indicated, then the prophylaxis of overfeeding is of the greatest importance in the feeding of a healthy baby.

In those babies that one has under satisfactory observation it is a simple enough matter to tell when they are thriving as they should, and almost equally simple to tell when disturbances are arising that are due to overfeeding. A healthy child is a "good baby" unless it is spoiled; it sleeps well, it is contented and active, has a good pink color, its tissues are firm, its bowel movements are yellow, moist, not excessively offensive and well digested; its temperature is remarkably uniform at all times; its gain in weight conforms to what we recognize as a norm, a steady gain of about four ounces a week throughout the year, a little more during the first few months, a little less during the last few months. If too little food is given the gain is insufficient, if it is increased to the proper amount the gain becomes normal. Milk overfeeding is easily recognized by the symptom-complex outlined above.

THE EVIDENCES OF INTOXICATION.

The acute catastrophes or intoxications likewise give their warnings. The prodromata that are always present may be of very short duration, or they may extend over weeks and months and should always be heeded. There is evidence of indigestion shown by the general condition of discomfort and by the character of the bowel movements; the weight curve shows wide variations with a general tendency to remain about level or to go down. Still more important, there is an abnormally variable temperature curve with occasional spurts of fever and an increasingly narrow tolerance for certain food elements, notably the fat and the sugar. If these warnings are heeded and all food is withheld for twenty-four or forty-eight hours while the child is on a water or tea or cereal water diet with saccharin (gr. i to the quart) to sweeten its food the danger is avoided. If unheeded, and especially if the food is increased because the child is losing, the intoxication is almost inevitable.

Fortunately we have certain numerical standards as to the amount of food that the normal infant should get. These figures are the result of observations on large numbers of thriving breast-fed and bottle-fed babies. These standards are of immense practical value in every case, but especially in those cases in which one can not see the patient constantly, not so much to tell us how much to give a baby as how much not to give. They should be considered, therefore, rather as a check on overfeeding and underfeeding than as a guide.

BODYWEIGHT VERSUS AGE.

If simple milk dilutions with the addition of carbohydrates are used the simplest and most natural standard would be one that would tell us about how much milk per pound or kilogram a baby should get. That it is more important, as a general proposition, to vary the amount of milk according to weight rather than according to age is, I think, a self-evident fact. Budin gave us a valuable rule of this kind. He prescribed for every baby after the fifth or sixth month and weighing from thirteen to fifteen pounds one-tenth of its body weight of undiluted milk. This would be the equivalent of about one and one-half ounces to the pound. This standard, if a proper one when straight whole milk is used, is manifestly too high when milk dilutions with the addition of sugar or gruels are given, because here a considerable quantity of food is given outside of the milk itself in the form of sugar or starch.

In such dilutions as I have indicated it has been found that one ounce of milk to the pound of bodyweight is about a minimum on which a healthy baby will thrive as it should; that an ounce and a quarter is the more usual amount, and that we commonly have distinct evidence of overfeeding when we approach one and one-half ounces to the pound. A healthy baby of twelve pounds, therefore, would have at least twelve ounces of whole milk in its twenty-four hour food, more commonly fifteen ounces, and rarely if ever as much as eighteen ounces. It must be distinctly understood that this is not a definite rule applicable to every healthy baby. The important point is that it has been found empirically that the milk requirement of the great majority of healthy babies who are thriving on milk dilutions such as the above lies between one and one and a half ounces to the pound of body-weight. To my mind this simple guide is one of the most useful in infant feeding. It is, of course, of no value in feeding a sick baby, because here the limit of food tolerance is very quickly reached and we can give only as much as the baby can digest and assimilate in its present condition.

THE ENERGY QUOTIENT.

A still more useful standard, because it can be applied to all kinds of food combinations, is the calorimetric standard, according to which the food requirements are expressed in calories per pound, or per kilogram of body-weight of baby. To Heubner belongs the credit of having accurately determined the number of calories per kilogram of body-weight used daily by the healthy, thriving infant. This so-called "energy quotient" he placed at a maximum of one hundred for the first six months, the amount gradually lessening after that to about eighty or eighty-five at the end of the first year. He considered seventy as the approximate energy quotient on which weight equilibrium would be maintained. For several years I have determined the energy quotient in every feeding I have given and I am still daily impressed with the practical value and accuracy of the figures laid down by Heubner.

Only very exceptionally, if ever, is it necessary in healthy babies to exceed these figures. It must be emphasized that one should never determine in advance how many calories to feed a baby of a certain age and weight, but that we feed a baby a food of proper composition, and at proper intervals for that baby, and keep tab on its energy quotient to prevent overfeeding and underfeeding and to give one that sense of security that comes from knowing that the baby is getting about the amount of food it ought to have. Often a very satisfactory gain is made on energy quotients much lower than those determined by Heubner; the amount on which that child is thriving should not be increased no matter how low the energy quotient.

It is not at all uncommon, on the other hand, to find a baby fed on whey, or skimmed milk, or barley water, or condensed milk mixtures, for a long time, with an energy quotient of only thirty or forty, while the baby needs at least seventy to hold its weight. It is impossible to tell in such cases how much food a child is really getting as compared with what it ought to get unless one uses this calorimetric standard.

The process of determining the energy quotient in any given case is a very simple one. It is necessary to remember only a few figures that represent the caloric value of one ounce of each different food used in infant feeding. Thus cream (16 per cent.) has a caloric value of about fifty-four to the ounce; milk, twenty-one; fat-free milk, ten; sugar, one hundred and twenty; flour or cereal, one hundred; cereal water, two or three, etc. To calculate the energy quotient it is only necessary to miltiply the number of ounces of each ingredient of the food mixture by its caloric value, to add the products and to divide the sum by the number of kilograms the baby weighs. If we divide the total number of calories by the number of pounds it will be necessary to multiply this by 2.2 to get the number of calories per kilogram. After a little practice the energy quotient of a somewhat complex food can be calculated in a few seconds even without the use of paper and pencil.

THE PERCENTAGE METHOD.

Nearly all that has been said has been so at variance with what is taught in our text-books, and what is commonly practiced in this country, that the subject can hardly be dismissed without some reference to the percentage method. The percentage method is practically based on the idea that the proteid of cow's milk is the one food element that is difficult to digest, and, on the other hand, that the fat is comparatively harmless and easy to digest. It further assumes that in feeding a baby the important thing in modifying the food is to give the baby a certain percentage of each food element rather than to give it a certain amount of food. As a logical sequence to this certain tables are set forth that indicate what strength of food a healthy baby should have at different months, the percentages gradually increasing as the infant grows older.

That the proteid of cow's milk is difficult to digest by infants it seems to me has no longer any positive evidence to support it and is discredited by nearly all Continental writers. For a number of years some of us have looked in vain for any clinical picture that we could designate as proteid indigestion. There is a purely theoretical consideration that casein must be hard to digest, because relatively so abundant in cow's milk, because it curdles in large firm masses instead of the finer ones of mother's milk, and because curds that are assumed to be casein are found in the bowel movements as evidence of indigestion. This theoretical consideration has no standing when it can be demonstrated practically that nearly any baby can digest a high percentage of pure casein in suspension, or skimmed milk, provided it can stand that much sugar, and that curds never appear in the stools no matter how great the percentage of proteid, provided the food is fat free, and lastly that curds regularly appear in the stools of babies to whose food whole milk is added even in small quantities after they have been on a fat-free milk. The very curds that have been assumed to be casein, we are now told on the highest authority, are chiefly fat derivatives.

On account of the complexity of proteid metabolism it would seem, theoretically, that an excessive amount of proteid would make a greater demand on both the digestive and metabolic powers of the child than the other food elements. To what extent this is true can not be told at the present time. There is very little if any evidence at the present time that there is any harm in feeding a large amount of proteid, although the fact that Nature provides for so little in mother's milk would make us hesitate to use an excessive amount. It is certainly an interesting fact in this connection that in the cases of severe intoxication, where digestion is nil, and where there is a state of "metabolic bankruptcy" (Finkelstein), proteid alone can be fed, in what would usually be considered excessive amounts even in health, without any detrimental effect, while the administration of small amounts of fat or sugar would surely produce serious results. In two cases of summer diarrhea with profound intoxication, and the patients seemingly moribund, each was given, after one day of water diet during the next twenty-four hours, the pure washed casein in suspension of sixteen ounces of milk. This was followed by an uninterrupted convalescence and curdless bowel movements. Formerly I would not have dared give them even one ounce of milk for a number of days on account of the fear of "proteid indigestion," and I feel positive that both babies would have died if they had been put on barley water with sugar, or on whey, or on milk containing fat.

That fat is relatively easy to digest and metabolize seems equally doubtful. It is certainly the one cause of milk overfeeding and plays the leading rôle in the intoxications, and these two conditions are much the most frequent and serious nutritional disturbances in infancy. We all know from every-day experience that cream is not well borne by sick babies, especially those that have a digestive disturbance, nor is whole milk so well taken as skimmed milk, and if this is true, then there is every reason to believe that the fat is comparatively difficult to digest in health as well. All through our literature we see more and more evidence of the fact that fat is no longer considered so easily digested and assimilated as was formerly thought. The following case is instructive in this connection:

AN ILLUSTRATIVE CASE.

History.—Baby B., aged nine months; weight, eighteen pounds; healthy and thriving on equal parts of milk and barley, water and sugar. The proteid was increased to 4 per cent. within four days; the fat remaining the same (2 per cent.) and the caloric value approximately the same (energy quotient=90). No deviation from the normal gain, digestion and well-being during the following week. During the following ten days the fat was increased to 4 per cent., the proteid lowered to 2 per cent. and the same caloric value maintained. Within a few days practically every symptom of overfeeding was produced, including a universal eczema—which the mother interpreted as measles—anorrhexia, restlessness, pallor, loss of twelve ounces in two weeks, hard gray bowel movements, and finally the fever, frequently cheesy bowel movements, etc., of a beginning intoxication. The fat was then at once lowered to 2 per cent., the proteid increased to 4 per cent., the caloric value remaining the same. Within a few days the child was normal again in every way. Such an experiment is justifiable only because we have a positive assurance that a rational therapy based on our knowledge of the pathogenesis of overfeeding will quickly restore the child to its former condition unharmed.

The assumption that the percentage of different food elements is of prime significance is equally untenable. If the child can only retain and digest it, it makes little difference what the strength of the food is, but it does make all the difference between failure and success whether the child gets a proper or an excessive amount of food. One can as easily overfeed a baby on a large amount of a low percentage of everything as on a much smaller amount of a stronger food. In other words, the percentage of food elements *per se* has no bearing on overfeeding or underfeeding. With the high percentages of fat commonly advocated by those who use the percentage method we have, furthermore, the use of a maximum amount of the one food element that is the important factor in producing the nutritional disturbances that result from overfeeding, i. e., the fat.

Moreover, a study of the tables given in our leading text-books will show that from a calorimetric standpoint they uniformly recommend or permit excessive amounts, especially during the latter part of the first year. For a baby of six months weighing, say, fifteen or sixteen pounds, Holt's table permits an energy quotient varying from 95 to 150, while a proper amount would be 80 to 90 or 95.

It is interesting in this connection, too, to bear in mind the simple fact that mother's milk varies but little in composition or percentage after the first few weeks, but that its amount varies directly in proportion to the needs of the nursling.

It is claimed for the percentage method that it is unique in its flexibility, permitting us to increase or diminish individual food elements at will. With the proteid as a practically negligible quantity in therapeutic amounts it is evident that the other food elements, the fat and the carbohydrates, can be varied just as freely in the use of simple milk dilutions.

Finally, it must be admitted that the percentage system has always seemed a peculiarly complicated one to the great majority of physicians and that most of them ultimately did not use it as taught by those most conversant with it. If not used as intended it permits of a wide range of error. Frequently cream is added in excessive amounts without calculation of either the amount or the percentage and the inevitable bad results follow. It is little wonder, then, that a majority of physicians finally use the simple modifications recommended by the "baby food" men, and this alone is a serious arraignment of that system.

In conclusion, I wish to express my indebtedness to Dr. F. X. Walls for his very kind assistance in many ways.

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CLINICAL OBSERVATIONS ON ANTIGONOCOCCIC SERUM.

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In October, 1907, a quantity of antigonococcic serum was placed in our hands by Parke, Davis & Co. for experimental use in the treatment of gonorrhea and its complications. This serum is prepared according to the directions of Dr. Torrey and consists of serum obtained from the sheep, immunized against several strains or varieties of gonococci. For an account of the experimental work and the technic employed in the manufacture of the serum we refer the reader to articles by Drs. Torrey and Rogers[1] and a further communication by Dr. Rogers and Dr. Torrey.[2]

The serum is supplied in sealed bulbs of 2 c.c. capacity, and this quantity is recommended as a dose, to be injected hypodermically into the loose cellular tissue of the back, buttock or arm. In our experiments we have never used, except in one case, a larger single dose than 2 c.c., the intervals between injections varying from one to three days. The injections were given deeply into the buttock, as a rule, but in a few cases the interscapular region or the loose tissue on the back of the arm was selected. Our experiments were carried out on a series of twenty-three cases, twelve of which were confined to the hospital and therefore under better supervision than the remaining number which, with one exception, were ambulant cases. The following is a brief report of the history and course of each case:

CASE 1.—The patient, C. I., had gonorrhea two years ago, with recurrences at intervals and acute exacerbation two weeks before admission. There was a mucopurulent discharge in which gonococci were found. The first glass was cloudy, second glass clear. The prostate was enlarged, soft and tender, but not nodular. Gonococci were found in the expressed secretion after irrigation of the anterior urethra. The first injection was made Oct. 16, 1907, consisting of 2 c.c. of serum into the buttock. The injection was repeated in four days and all other treatment discontinued except massage of the prostate. The third and last injection was given three days later. There was less discharge, but gonococci were still present in the expressed secretion of the prostate. On Oct. 24, 1907, the patient refused to remain for further treatment. There was less discharge, but otherwise the condition was the same as on admission.

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[1] THE JOURNAL A. M. A., Jan. 27, 1906, xlvi, 261, 263.
[2] THE JOURNAL A. M. A., Sept. 14, 1907, xlix, 918.

Case 2.—The patient, R. E., had gonorrhea twenty years ago and again five years ago. Since this time he frequently observed a mucoid discharge especially after drinking and intercourse. Examination revealed a slight mucoid discharge and many shreds in the first glass of the two glass test. Many large shreds were present in the third glass after massage of the prostate. No stricture was present. The right lobe of the prostate was large and tender; the left lobe was not markedly enlarged, but tender. Gonococci were found after several examinations of the expressed secretion. The patient had been treated for three months with but slight improvement before the first injection, which was given on Oct. 16, 1907. All other treatment was then discontinued except massage of the prostate twice weekly. He received nine injections in all, given every other day. There was no improvement in his condition and gonococci were present when this treatment was discontinued.

Case 3.—The patient, M. P., had a negative past history. The duration of his condition before admission was three months. The patient developed a left epididymitis in the tenth week. Examination revealed a large, painful and tender epididymis, slight mucopurulent discharge, both urines cloudy, and gonococci present. On date of admission, Oct. 28, 1907, the patient was put to bed, the scrotum elevated and an injection of serum given into the buttock. The injections were repeated daily until November 9, with a gradual improvement in the condition. The pain and tenderness had subsided, a discharge was still present and both glasses of the two glass test were cloudy. The injections were discontinued and other treatment instituted.

Case 4.—The patient, W. S., had a negative past history. The duration of his condition was seven days before admission, Oct. 31, 1907. There was a profuse purulent discharge, first glass cloudy and second glass clear, gonococci present. Six days after the patient's admission there developed a painful and tender swelling in the calf of the right leg, extending from a few inches above the ankle almost to the popliteal space. The patient could not walk on account of the pain. A probable gonorrheal myositis was diagnosed and serum treatment instituted, the injections being repeated every third day. On the day after the second injection there was less swelling, but considerable pain and tenderness persisted. After five injections had been given the swelling had almost disappeared, but pain and tenderness were still present. Bier's hyperemic treatment was then applied every day, and the injections continued every third day until November 30, when all local evidence of inflammation had disappeared. During the treatment the urethral discharge ceased, and only a few shreds were present in the urine. An astringent injection was given and caused a reaction, and gonococci were demonstrated in the discharge.

Case 5.—The patient, L. L., had gonorrhea two years ago. The present attack was of five weeks' duration. There was a purulent discharge, gonococci were present. There was frequent, imperative urination and both glasses were cloudy. The left ankle began to swell two weeks after the onset of the acute attack. The joint was swollen, very tender and painful. The first injection was given the day after admission, Nov. 6, 1907. Bier's treatment was used in conjunction with rest and elevation. Patient received six injections in all, every third day. The day following the third injection the joint was but slightly swollen, there was no pain or tenderness, and the acute urethral symptoms had ceased. After the sixth injection there was no evidence of local inflammation. The urethral discharge, however, persisted.

Case 6.—The patient, J. D., had gonorrhea five years ago. He was admitted Nov. 19, 1907, suffering from acute gonorrhea of four days' duration. There was a marked purulent discharge, and gonococci were present. The first glass was cloudy and second glass clear. Patient received first injection on the day after admission. Three injections were given during a period of one week. There was no improvement in his condition and he was referred to the dispensary, but failed to report.

Case 7.—The patient, C. C., had gonorrhea five years ago. The present attack was of four days' duration. There was a purulent discharge, the first glass was cloudy and second glass clear; gonococci were present. The patient was given an injection every day for one week, at which time there was no improvement and he refused further hypodermic medication.

Case 8.—The patient, J. D., had gonorrhea ten years ago and several recurrences since. The duration of the present attack was three weeks. There was a purulent discharge; the first glass was cloudy and the second glass clear; gonococci were present. The patient was referred from the medical wards, where he had received treatment for supposed rheumatism confined to the back and right hip. Patient complained of severe pain in the back and right hip and walked with difficulty, but there was no local evidence of inflammation. Injections were given every other day, six in all. There was less discharge; the urine remained the same and gonococci were present. There was no relief from pain. Serum treatment was discontinued.

Case 9.—The patient, W. J., had a negative past history. The duration of the present attack was two weeks. There was a moderate purulent discharge; both glasses were cloudy, and there was frequent imperative urination. There was a right epididymitis of six days' duration and a left epididymitis of three days' duration. Gonococci were present in the discharge. On Nov. 13, 1907, the patient received the first injection. There was no other treatment except rest in bed and elevation of the scrotum. On November 16 the patient complained of slight pain and tenderness. The swelling rapidly disappeared on both sides; the discharge remained the same. The patient received a second injection November 19. There was no pain or tenderness; a slight swelling remained; the discharge was the same. A third injection was given on November 22. A small nodule was present on each side. A fourth injection was given on November 26. All symptoms of posterior urethritis having disappeared, serum treatment was discontinued and the patient was referred to the dispensary for further treatment.

Case 10.—The patient, M. M., had a negative past history. The duration of his present attack was three weeks. The patient was admitted to the hospital Oct. 29, 1907, with a purulent urethral discharge, in which gonococci were present. There was frequent, imperative urination and both glasses were cloudy. Daily irrigations, together with internal balsamic treatment, were given until Nov. 21, 1907, with but slight improvement. On this date the first injection was given and all other treatment was discontinued. Two days later another injection was given and injections were repeated every second day until five injections had been given. In this patient there was a marked improvement from the beginning of the serum treatment. The discharge became less, and, after the third injection, ceased entirely. After the fifth injection the urine was perfectly clear.

Case 11.—The patient, A. E., had a negative past history, and a gonorrhea of three weeks' duration. He developed a right epididymitis two weeks after the urethral discharge was first noted. At the time of admission to the hospital there was a slight mucopurulent discharge in which gonococci were found; the first urine was cloudy and the second slightly cloudy. The epididymis was very large, painful and tender. On Nov. 25, 1907, the date of admission, the patient was put to bed, the testicles were elevated and an injection of 2 c.c. was given into the buttock. In three days there was no pain, slight tenderness and the epididymis was almost normal size. Another injection was given, and repeated in three days. At this time only a small nodule remained. There was no return of the discharge, and the first glass of the two glass test contained only shreds. The serum treatment was discontinued.

Case 12.—The patient, J. S., had no previous history of venereal disease. The patient first noted a discharge Nov. 4, 1907, and developed a right epididymitis Nov. 13, 1907. He was admitted to the hospital on November 20 with a purulent discharge, frequent urination and a large, painful swelling of the right epididymis. Both glasses were cloudy. He was given an injection on day of admission, and the treatment was repeated daily for four days, without making the slightest improvement in his condition. It was necessary to give him anodynes every night on account of the pain. The serum treatment was discontinued, and wet dressing of a saturated solution of magnesium sulphate applied. All pain disappeared in four hours.

Case 13.—The patient, J. G., had gonorrhea six years ago and came to the dispensary of the German Hospital with gonorrhea of three weeks' duration. He complained of frequent imperative urination and both glasses were cloudy. He was given five injections, each of 2 c.c. serum on every second day. No other treatment was given. As there was no improvement in his condition, and as he objected to further hypodermic medication, other treatment was instituted.

Case 14.—The patient, C. R., had gonorrhea of seven weeks' duration, and left epididymitis of five weeks' duration. He had a slight discharge containing gonococci. The epididymis was not painful, but large, hard and indurated. The first glass was cloudy, the second clear. He received four injections at intervals of three days. No improvement was noted. He objected to further hypodermic medication.

Case 15.—The patient, E. K., had a gonorrhea of three months' duration and a left epididymitis of one month's duration. When first seen in the dispensary there was a slight purulent discharge, the epididymis was slightly tender, large and indurated. Both urines were cloudy. The patient complained of marked pain in the left ankle, which was not swollen but tender to pressure. The left wrist joint was very painful, tender and slightly swollen. The pain in the joints was noted three days before coming to the dispensary. The patient received the first injection Dec. 16, 1907. On December 20 his condition was the same and he received his second injection. On December 23 his urethral condition was the same; there was no pain in ankle, but a slight tenderness; the epididymis was somewhat smaller. Another injection was given. On December 27 there was no pain or tenderness in ankle; a slight tenderness only on pressure in wrist joint. Otherwise the patient's condition was the same. On December 30 there was no evidence of articular involvement. On January 3 there was a slight mucopurulent discharge containing gonococci; the first glass was cloudy and the second clear. The epididymis was still large and indurated.

Case 16.—The patient, J. T., had a negative past history. He came to the dispensary November 18 with a profuse purulent discharge of four days' duration, the first glass was cloudy, the second clear. An injection of 2 c.c. serum was given. On November 20 no improvement was seen and a second injection was given. On November 23 there was a profuse purulent discharge, with edema of prepuce and chordee. The patient requested other treatment, refusing further hypodermic medication.

Case 17.—The patient, J. L., had gonorrhea eight years ago. The duration of his present condition was two weeks. There was a profuse purulent discharge, chordee, and left epididymitis of one days' duration. A suspensory bandage was applied and an injection of serum given. On November 24 the patient's condition was the same, and a second injection was given. The patient was not observed again for six weeks. He then returned to the dispensary for treatment of urethritis. In the interim he had sought treatment elsewhere and the left testicle had been removed.

Case 18.—The patient, F. S., had a negative past history. The duration of his present condition was eight months. The meatus was small, there was a purulent discharge, no urinary frequency, both glasses were cloudy. On November 18 an injection of 4 c.c. serum was given. The patient did not return to the dispensary until December 2. There was no discharge, and both glasses were clear. The patient denied taking any other treatment. On December 16 there was no discharge, the first glass contained a few shreds. No gonococci were found. The patient did not return for further observation.

Case 19.—The patient had a gonorrhea of three weeks' duration. There was a profuse purulent discharge and marked local symptoms; gonococci were present. There was no urinary frequency, the first glass was cloudy, the second clear. On December 16 an injection of 2 c.c. was given and the treatment repeated every day until five injections had been given. On December 22 there was no improvement; the disease had extended to the posterior urethra. The serum treatment was discontinued.

Case 20.—The patient, G. E., had gonorrhea eight years ago and again four years ago. The duration of his present condition was one month. There was a purulent discharge containing gonococci and frequent imperative urination. The prostate was large, tender and soft. Both ankles and the right knee were acutely inflamed. On December 14 an injection of 2 c.c. of serum was given, and the treatment repeated daily for six days. There was then an entire absence of articular involvement. The urethral and prostatic condition remained the same.

Case 21.—The patient, W. W., had had gonorrhea for seven months. There was a mucoid discharge and the urine was full of shreds. Gonococci were present in the prostatic secretion obtained by massage. On November 21 the patient received the first injection, and all other treatment was discontinued except massage of the prostate per rectum. Nine injections in all were given in the following fifteen days. There was no improvement and the serum treatment was discontinued.

Cases 22 and 23.—These were dispensary patients suffering with subsiding urethritis, presenting a mucopurulent discharge and shreds in the first urine voided. Each received two injections at intervals of three days, but neither reported for further observation.

Of the twenty-three patients treated, patients 1 to 12 inclusive were confined in the hospital, all the others, with the exception of patient 20, were ambulant cases. All of the patients suffering with acute inflammatory complications who were treated in the hospital, and patient 20 as well, were confined to bed. Regarding the action of the serum on the urethral infection, it appears that it has little if any curative action. The improvement in the urethral condition in some patients may be attributed more to rest and hygienic treatment than to any specific action of the serum.

None of the patients suffering with gonorrheal prostatitis was cured. Of the seven cases of epididymitis, improvement was observed in three, no improvement in four. These three patients were confined to bed, with elevation of the scrotum, and it is doubtful if the improvement can be attributed to the serum alone. As is well known, many patients suffering with epididymitis are relieved of acute symptoms when confined to bed and receiving no treatment other than elevation of the scrotum.

If conclusions can be drawn from this limited number of cases, it appears that neither the number of injections nor the time elapsing between injections has any influence on the results of the treatment, as in no case was there what might be termed a prompt improvement, which is to be expected from an antitoxin treatment. Possibly better results would have followed the administration of larger doses.

The best results were obtained in the patients suffering with arthritis. Three were promptly relieved and all local evidences of inflammation had subsided in less than two weeks. In one of these Bier's treatment was used in conjunction. As is well known, gonorrheal arthritis is one of the most obstinate conditions to cure, and such prompt relief as was obtained is encouraging. With no other treatment excepting opsonotherapy and Bier's treatment have such gratifying results been obtained. In the case of the patient complaining of pain in the hip and back it is questionable whether the pain was gonorrheal in origin, there being no evidence of articular inflammation.

The patient with gonorrheal myositis showed but little improvement after two weeks' treatment with serum alone, but responded promptly when Bier's treatment was used in addition.

Following the use of the serum injections a general urticarial eruption was observed in seven patients. Other than slight pain at the site of the injection and the urticarial eruption, accompanied by the most intense itching, no local or general toxic manifestations were observed.

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ELEMENTS OF PSYCHIATRIC PROGNOSIS*

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The prognosis of mental disease offers, as is well known, peculiar difficulties. These difficulties are due to our lack of knowledge of the morbid agents at work, of their mode of action, of the physical make-up of the patient, and in a still greater degree to imperfect clinical data.

THE ELEMENTS OF THE PROBLEM.

Our knowledge of the first group of facts, namely, of the morbid agents, is in itself most imperfect and is limited to a few of the agents concerned in the insanities of intoxication, to a few concerned in the insanities resulting from infection, and to a still smaller number concerned in the insanities of autointoxication, such as the diathetic insanities and the insanities dependent on thyroid derangement.

Our knowledge of the second class of facts, namely, those dealing with the structural peculiarities of the patient, is still more unsatisfactory; it is embraced in the rather vague conceptions conveyed by the term neuropathy. We can express our ideas concerning the latter only in a general way. A neuropathy means departures in morphology, arrests, deviations affecting the skull, the limbs, the nervous system, the vascular apparatus and other structures; in other words, it means departures from the normal of the organism as a whole. It follows that the ductless and other glands and the tissues generally, each of which contributes its modicum to the various fluids of the body, the blood, the lymph, the cerebrospinal fluid, as the case may be, are involved in the imperfect and aberrant development. It would seem that in neuropathy the conditions present are such as to imply a diminished resistance on the part of the nervous system on the one hand, and a toxic metabolism on the other. Further than such a general expression it is as yet impossible to go, however, and the difficulty of prognosis is still further increased by the great range of variation in individual cases both as to symptoms and course. In individual cases, in consequence, it is usually possible to make only general statements as to probability of outcome and none but the coarsest approximations as to duration.

Of necessity we are compelled to rely on factors purely clinical in their nature. Our clinical knowledge has made great and increasing advances. Since the epoch-making studies of Kahlbaum and Hecker, and especially since the more recent recognition of dementia præcox by Pick and its subsequent expansion by Kraepelin, our conceptions have become more and more clear. This is true not only of the dementia præcox group, but also of the manic-depressive group. Notwithstanding our knowledge, from the very nature of the subject, must continue to lack precision. No measure of exactitude can apply. As a rule, a general statement only as to the outcome may be hazarded and then only as to the outcome from an existing attack. None but very coarse estimations can be made as to duration, and none whatever as to possible recurrences or as to the extent of intervals of mental health. Owing to numerous and complex factors, at present indeterminate and indeterminable, such as the facts of causation and the facts embodied in the neuropathy of the patient, the degree of his resistance and his power of repair, the problem of prognosis must unquestionably remain in given cases very difficult.

The points which enter into the problem are: First, the clinical form assumed by the mental disorder; second, the presence or absence of actual quantitative mental loss; third, the systematization of delusions; fourth, the fixation of symptoms; fifth, age; sixth, sex; seventh, the presence of morphologic or somatic stigmata; eighth, the significance of heredity; ninth, the bearing of social status.

APPLICATION OF DATA TO PROGNOSIS.

Mental diseases can be roughly divided into two classes. The first class consists of those which are essentially neuropathic—that is, autogenetic. This class includes dementia præcox, paranoia, the manic-depressive group and the neurasthenic insanities or psychasthenias. The second class includes those dependent on infection, intoxication, trauma or other extraneous causes—that is, affections which are exogenetic. This class includes many forms of delirium, confusion and stupor.

Obviously these two classes present primarily widely differing factors in prognosis. It goes without saying that the prognosis of the first class is in general terms far less favorable than that of the second and it will serve our purpose best to begin with a consideration of one of the groups of the latter—for instance, the heboid-paranoid group, the groups to which the general term of dementia præcox has of late years been applied. We are all familiar with the statements made by the great exponent of the modern view of dementia præcox, Kraepelin, regarding the probabalities of recovery in hebephrenia, catatonia and in dementia paranoides. The proportion of recoveries given by him for hebephrenia, namely, 8 per cent., and for catatonia, 20 per cent., I believe to be too low. There can be no doubt that if the milder extramural cases were included the proportion of recoveries would be higher. However, even if we had definitely determined the average proportion of cases of recovery, this of itself would be of but little value in the prognosis of individual cases. Unfortunately also the attitude of physicians in regard to dementia præcox is such as to negative a consideration of individual prognosis, for the very name of the affections implies an unfavorable outcome. Nevertheless, the remarkable improvements, not to speak of the complete recoveries now and then observed, both in hebephrenia and catatonia and even in paranoid forms, make it imperative that each individual case be studied for itself. The question arises as to the principles that should here be applied.

The members of the heboid-paranoid group, hebephrenia, catatonia and paranoid dementia, are so closely related that they can safely be considered together.

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If the first of the list of factors, namely, the form assumed by the mental disorder, be now applied, it is noted, of course, that the presence of catatonic symptoms lends a more favorable aspect to the prognosis than does hebephrenia, while dementia paranoides is the least favorable form of all. This result is, however, of general value only.

On the other hand, the second factor, namely, that as to the presence or absence of quantitative mental loss, that is, of true dementia, furnishes a test which, when it can be applied, is of very great value. Its application is often very difficult, and yet if certain elementary facts be borne in mind the application frequently becomes possible. As I pointed out some two years ago in a paper read in Baltimore, in both hebephrenia and catatonia, it is confusion and not dementia which dominates the clinical picture. All of the elements of confusion are present, hallucinations and illusions, associated with fugitive, changing, unsystematized delusions. In periods of excitement this confusion may attain the intensity of delirious episodes, or, on the other hand, it may deepen, as it habitually does in catatonia, into stupor. Delirium, confusion and stupor are, of course, closely related states, and that they may occur in varying degrees in hebephrenia and catatonia, is, of course, a matter of common experience. The element of confusion in dementia præcox is habitually lost sight of in the discussion of the subject.

Because of the name we habitually think of dementia præcox as a disease which is a dementia primarily and of which the dementia is the most prominent feature. Let us see whether the facts really justify such a position. If we compare the symptoms presented by a case of unquestionable dementia, such as a senile dementia, with the symptoms presented by a case of dementia præcox, we note striking differences. The use of the term "dementia" should be limited to a quantitative change of mind, that is, to the loss of faculty and not to a mere change of quality or change in the mode of action. In a case of simple senile dementia, that is, a case uncomplicated with hallucinations or delusions, we find in the very beginning an impairment of memory, an impairment which makes itself evident at first in the failure to remember how the daily tasks that make up the life of the individual are to be performed, in forgetfulness of the daily duties, obligations and proprieties. As is well known further, this loss of memory involves at first recent events, those which have made the least profound impression upon the mind. It is hardly necessary to dwell here on the characteristics of this impairment. We need only recall the loss of names of common objects, the names of intimate friends and relatives, of the needless repetition of statements, of the garrulousness of old age. No comment is necessary to illustrate these well-recognized inroads into the mental integrity. Professional attainments, languages, the whole of the acquired knowledge of the middle and finally the adolescent periods of life are lost, leaving nothing but the acquisitions of earliest age and sometimes not even these. Compared with this condition of memory, that which obtains in dementia præcox is strikingly different. Disorders of memory are not, to say the least, the initial features of dementia præcox. Indeed, as is well known, memory is, in the beginning and for a long time after the affection has become established, well preserved. It is only after the disease has persisted for a relatively long time that actual loss of memory becomes evident. Further, in dementia præcox, the consciousness of the patient—stuporous states, of course, excepted—usually remains remarkably clear. In true dementia, such as is seen in senile dementia, consciousness, on the other hand, is usually more or less clouded. Still further, in dementia præcox, orientation, a function dependent on the integrity of a great group of complex faculties, is well preserved, the patient being usually in correct relation with his environment—of course, again excepting stuporous states. In dementia, as illustrated by senile dementia, there is frequently gross impairment of orientation, the degree of this impairment being in direct relation to the degree of quantitative mental loss. It is only at a relatively late period that dementia præcox presents changes alike in memory and in orientation. In keeping with this view Regis, Christian, Anglade, Macpherson, Knapp and others classify dementia præcox under confusional insanity.

Many facts also suggest that dementia præcox is due to a toxin or toxins and if so this would bring dementia præcox within the range of the toxic confusions.

The first problem, therefore, presented by a given case of hebephrenia or of catatonia, is to determine the presence of actual mental loss. If such mental loss can not be demonstrated, and if the symptoms of confusion alone are present, the case should be regarded as one in which improvement or recovery is still possible. Under these circumstances we have certainly no right to predicate a necessarily unfavorable outcome.

The determination of the question of mental loss may under given circumstances — that is, in stuporous or deeply confused states—be one of extreme difficulty. However, the mere fact that confusion and stupor are the dominant features lends presumption to the view that they and not dementia are present.

The next point that presents itself is that of the systematization of delusions. Systematization must be considered as a feature apart from fixation, because systematization and fixation do not necessarily go hand in hand. As is well known, systematized delusions that are not fixed constantly occur and, on the other hand, many mental phenomena are met that are fixed and yet do not consist of systematized delusions. The systematization of delusions embraces primarily two distinct factors:

First, in order that delusive ideas should be coherently and logically arranged it is to be presupposed that the mind must have attained a certain degree of development. It is a well-known fact, pointed out statistically years ago by Pickett, that the paranoid cases are found among patients distinctly older than in catatonia or hebephrenia. While in the hebephrenic and catatonic the hallucinatory states are associated with and perhaps give birth to painful delusive ideas, these ideas are not arranged, the suffering of the patient is not logically reasoned out and systematization does not result, although the patient in a vague way presents the paranoid attitude of mind in so far as he projects the causes of his sufferings to sources that are outside of himself. Painful ideas characterized by suffering, torture, poisoning, burning, mutilation inflicted on him, are usually present in such number and such prominence as to dominate the picture and to indicate clearly the reference by the patient of his sufferings to agencies in the external world, and yet systematization is not present. On the other hand, cases are met, both of hebephrenia and catatonia, in which, especially in the older phrenics, the delusions are more clearly paranoid: so much so, indeed, that one is sometimes in doubt whether to classify the case among the hebephrenics or among the paranoid dementias.

It has been the habit to regard cases presenting paranoid delusions as cases in which an unfavorable outcome is foreshadowed. However, it is also a matter of experience that the existence of systematized delusions does not necessarily mean permanency. Time and again it is noted that delusions, though systematized, are poorly systematized and again that they are changeable, manifold and shifting. Time and again improvement and actual disappearance of delusions are noted in such cases. Indeed, even patients in whom a paranoid system of well-defined delusions has been observed may recover. Such a case has been reported by Dewey, and I have myself observed two such instances, one of them during the past year. The patient was a man in the early forties in whom a series of persecutory ideas, associated and possibly based on hallucinations, made their appearance. They persisted for many months, and yet along with an improvement in the general health they disappeared just as completely as do the symptoms of confusion in other cases, the man making a complete recovery.

Another factor to be considered in the systematization of delusions is the intensity of the symptoms. If the mental disturbance be attended by marked excitement and the rapidity of the elimination of ideas be greatly increased, confusion dominates the picture; if the intensity of the disturbance be less pronounced, if, in other words, the confusion is mild in degree, systematization or — perhaps better — pseudo-systematization may be present. Thus the same case of hebephrenia or paranoid dementia may present a varying picture.

In answer to the question whether systematization of itself negatives recovery, or whether it greatly increases the improbability of recovery, it must be admitted that in the larger number of cases systematization must be regarded as a very unfavorable sign. If the delusions lack fixation, however, if they remain ill-defined, and especially if they vary markedly from time to time, the possibility of their disappearance must at least be conceded.

The question of fixation demands special consideration. I am in the habit in my lectures of defining a delusion as a false belief concerning which the person holding it is incapable of accepting evidence—that is, such evidence as is accepted by the average or normal mind. A delusion presupposes some break in association, either temporary or permanent. If the break in association is temporary, such as would be induced by the action of a toxin, the delusions would of necessity be temporary only and we would be inclined to expect a shifting picture of delusive beliefs. It is only when a delusive belief has become fixed that we have the right to conclude that the break in the association has become permanent. It is fixation, therefore, which is the unfavorable sign and not mere systematization. Systematization and fixation, it is true, commonly go hand in hand, but they are not necessarily correlated—not necessarily associated. Fixation, as is well known, occurs in association with other mental phenomena such as those presented by the special forms of fear, by the insanity of indecision, by the defects of will and of inhibition met with in psychasthenias and of which persistence is a well-known characteristic. Fixation in association with systematization of delusions is necessarily a factor of unfavorable prognosis. Fixation greatly lessens the probability of recovery.

The remaining points entering into the prognosis may be considered rather briefly. As regards age, a priori considerations are confirmed by clinical experience, namely, that other things being equal, the younger the individual the greater the possibility and probability of recovery. This can be distinctly claimed for the heboid-paranoid group and it is undeniably true of the manic-depressive group. Cases of hebephrenia or catatonia manifesting themselves relatively late present a greatly lessened prospect of recovery. For instance, in the earlier catatonics, the percentage of recoveries is relatively large; in the late catatonics it is relatively small. As regards the manic-depressive group, it is absolutely true that the prognosis of the individual attacks is infinitely more favorable, especially as regards duration in the younger patients, that is, those of the third decade as compared with those of the fourth and fifth decades of life. How much more prolonged a middle-age melancholia is than a melancholia of early life need not be dwelt on. In general terms, the psychoses met in middle life and old age are far more serious in their outlook both as to duration and eventual outcome than are those of early life.

The sixth point, that of sex, is so extensive as to preclude extended consideration here. Suffice it to say that the relation of the menstrual function to fluctuations in the psychoses must be borne in mind, as must also the unfavorable influence of a prolonged menopause on duration.

The seventh point, the significance of morphologic or somatic stigmata, that is, stigmata indicative of imperfect evolution, next claims attention. Briefly, it may be stated that when markedly present or when present in large number, they are in keeping with defective or aberrant mental development. Again, unless present in marked degree, they have none but indirect bearings on the problem of prognosis, as they are sometimes found associated with entire mental health.

What significance should be attached to the eighth point, namely, that of heredity? That a history of insanity in the ancestry has a profound significance in all cases of mental disease goes, of course, without saying. Sometimes, indeed, it has a special significance as, for example, in melancholia, a disease which occasionally repeats itself with fatal similarity in successive generations. A neuropathic heredity explains in a sense the occurrence of an insanity, but it influences the prognosis of a given attack in only a general way; it can not give us a definite clue as to either outcome or duration. However, it always influences unfavorably the prognosis as to permanency of recovery. Further, it may also influence the prognosis as to the course of an attack. Thus, if neuropathic heredity be pronounced, the course will probably be wave-like, or the symptoms may in other ways indicate a periodic or cyclic course.

The remaining point, that of the social status of the patient, is in given cases of considerable importance. A higher social status implies, other things equal, an ability on the part of the patient to provide himself with better surroundings than those which he can secure in institution life. There can be no question that the prognosis of a given case of hebephrenia or of catatonia is greatly enhanced by circumstances which permit the carrying out of elaborate methods of inducing hypernutrition, that is, methods embodied in absolute rest, full feeding, massage, bathing and the other physiologic methods found so useful in the treatment of exhausted states. The great importance of trained nursing and individual nursing must also be recognized. There can be no doubt, for instance, that the percentage of recoveries and of improvement in hebephrenics is greater under such methods of treatment. Unfortunately, elaborate methods, such as are necessary in a properly conducted rest cure, are expensive and are beyond the reach of the great mass of patients in mental cases.

As regards the class of cases which comprises those not essentially neuropathic, that is, those whose mental disturbance is dependent on infection, intoxication, trauma or other extraneous causes, they present, as is well known, other things equal, a favorable prognosis. Of course, the most favorable are the simple toxic deliriums and confusions. If elements of neuropathy are present these proportionately diminish the favorable outlook.

SUMMARY.

In summarizing the considerations contained in the above paper, I would lay stress especially as of importance in the prognosis of mental diseases on: First, the presence or the absence of actual dementia; second, the presence of systematization of delusions; third, the presence of fixation; and, fourth, the social status of the patient.

The limits of this paper will not permit me to discuss the prognosis of the various clinical forms or even special questions that play an important part in the prognosis. Among the latter may be mentioned the influence of the bodily condition and the significance of visceral complications. In a general way only it may be said that if there be marked physical improvement without corresponding mental improvement, the prognosis becomes proportionately unfavorable. Equally true is the converse, that is, the less frequent condition in which there is mental improvement without physical improvement; such cases should always be regarded with suspicion. Again the marked persistence of hypochondriacal ideas, especially of ideas of somatic and psychic negation, that is, belief in the absence or destruction of viscera, of psychic non-existence, or psychic perpetuity (the belief that the patient is dead or, on the other hand, that he can not die) are not infrequently found associated with chronic and non-recoverable cases.

Special factors, such as interruption and cessation of progress also influence the prognosis unfavorably. Similarly, an incomplete recovery renders recurrence not improbable. Further, one attack presenting a wave-like course raises the presumption of other attacks in the future.

Among favorable features may be mentioned regularity of course, concomitant physical and mental improvement, and, finally, the realization on the part of the patient that he has been ill.

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DISCUSSION.

Dr. W. T. Williamson, Portland, Ore.: Dr. Dercum is disposed to deprive dementia præcox of the element usually considered the basic fact, that is "dementia," and supply in its stead simply "confusion." It has been rather difficult to separate one form of it, the paranoidal variety, from true paranoia, and the method by which we could, if at all, keep them apart, was by the recognition of dementia of a true type as a feature of the dementia præcox, and the dementia of paranoia, when present, as being simply a pseudo form. The fixity of a delusion depends on the strength of the mind in which it rests. If there is a great degree of dementia present it would appear to be impossible for a delusion to maintain itself as one of fixity; and therein I think we would find a difference between the paranoidal form of dementia præcox and true paranoia. The paranoiac must have strength to cling to a belief, especially if it be surrounded with systematized delusions that give it an air of possibility. I would like Dr. Dercum's opinion as to whether it is not true that one of the distinctive features of difference between dementia præcox and paranoia would be the existence of true dementia in the former and only of a pseudo-dementia in the latter; and whether also it is not true that in those hebephrenic forms which have such a comparatively favorable prognosis as to recovery, there is not foreshadowed and threatened the same terminal dementia that characterizes cases which do not recover, or which because of the removal of the toxic or other agencies which tend to the perpetuation of the condition, simply escape before this change has taken place.

Dr. Albert E. Sterne, Indianapolis: We should take out of the group of dementias what does not belong there; we should reserve our conception of dementia for that which goes hand in hand with an organic decay, an actually destructive lesion of the brain cell, a practically incurable condition—a true dementia. Dr. Dercum mentions the quantitative loss, but means no doubt to include the qualitative loss also in mental acuity. I have frequently been deeply impressed with this feature of the prognostic aspect of the various insanities. It has seemed to me that most physicians are not sufficiently ready to regard those mentally ill as sick people. This is especially true, it seems to me, of the acuter conditions. I have through a long term of years come to the belief that mental conditions do not rise out of the surrounding ether, but have a distinct basis; that these patients are sick. I have never been, in meeting mental conditions, more deeply impressed with the truth of this than in those cases to which Dr. Dercum refers, namely the confusional type, especially in the hebephrenic class. It has been my invariable custom to treat these patients as seriously sick and to keep them in bed. Temperature and heart action should be carefully watched. I have been surprised innumerable times to find a rise in temperature sometimes up to 102, possibly a little higher—with a disturbance of the heart action—a marked irregularity in several cases. I have been imbued with the feeling that these cases are of cerebral character—a true inflammation of the cerebral tissue. I have not been able to believe that we are dealing merely with toxic conditions because the heart action does not simulate that which we see in those cases which we term toxic insanities ordinarily. The prognosis in these confusional cases is not so bad. I agree with Dr. Dercum that the relative number of recoveries in this class of cases is much higher than is commonly believed; and I believe it is the fault of the treatment rather than the condition itself which makes the number of recoveries low. By this I mean that we are inclined to neglect the truly serious physical aspect of such cases on account of the prominence of those symptoms commonly designated as mental.

Dr. F. X. Dercum: It is easy to differentiate between dementia præcox and simple dementia. In an ordinary case of senile dementia, among the early symptoms are failure of memory, of orientation, and gradually the faculties generally. Preservation of memory, even in cases which become finally demented, and full preservation of orientation exist in dementia præcox. The term *démence précoce* is unfortunate and has given rise to an unfortunate mental attitude with regard to these cases. Dementia præcox occurs in a very large number of cases in persons who are neuropathic—who are organically and structurally defective. There are in them some disturbances of development, arrests or deviations involving the organism as a whole, the nervous system, bones and muscles, cardiovascular apparatus, and no doubt also the ductless glands. When puberty is reached and the organism is obliged to adapt itself to new conditions, it can not meet the demands made on it; the patients become toxic, suffer from a toxic metabolism and present the mental symptoms of toxic confusion. A case of organic dementia certainly presents a very different picture from dementia præcox. Hebephrenia, catatonia, paranoid dementia, paranoia hallucinatoria and paranoia simplex are all closely related. They form a natural series. As practical physicians we ought to remember that many of the patients, though they are defectives, are suffering in addition from exhaustion and that frequently they can be improved and at times even cured by rest and hypernutrition, methods that are beginning to be used more and more.

EPIDEMIC INFANTILE PARALYSIS.*

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During the summer of 1907 an epidemic of infantile paralysis occurred in New York City and its vicinity. The number of cases (probably over 2,000) was so many, the extent of the disease in the city and along Long Island Sound into Connecticut and up the Hudson River as far as Ossining was so rapid, the severity of the cases was so intense and deaths from the disease so frequent, that the epidemic excited a great amount of interest both among the laity and the profession. It seems wise, therefore, to put on record some special account of this epidemic, to call attention to particular clinical features that were presented, to trace the course of the cases as far as possible, and also to bring together an account of other epidemics that have occurred in the past, inasmuch as a large number of records have now accumulated concerning the prevalence of this disease in epidemic form.

Through the kindness of Dr. Simon Flexner I am enabled to present the results of a biological study, made by Dr. Martha Wollstein at the Rockefeller Institute, of the cerebrospinal fluid from cases of the disease, and also the results of an autopsy on one case.

THE COURSE OF THE EPIDEMIC IN NEW YORK.

The epidemic of poliomyelitis occurring in the city of New York in 1907 began about May. The number of cases increased steadily during June and July, the height of the epidemic occurring in August and September. Cases continued to appear in October, and a few were reported in December. The epidemic was widespread, cases occurring not only in the city of New York, but also in Brooklyn, Long Island City and the Bronx. Some cases were also reported on Staten Island, and many cases were seen along the Hudson River as high as Ossining, which is fifty miles from New York. Cases were also reported along the sound at Mount Vernon, Stamford and Norwalk (forty miles from New York), and in some of the valleys of Connecticut within twenty miles of the sound. Cases were not observed in New Jersey or in the suburbs of Newark. It is estimated that nearly 2,000 cases of the disease occurred during this epidemic, and the mortality was probably 6 per cent. to 7 per cent.

The summer, though a hot one, was not unusually so; but it was unusually dry, the reports of the weather bureau showing that the rainfall was 1.18 inches in July and 2.48 inches in August, less than half that of previous years. Other infectious diseases were not particularly prevalent.

In but few of the cases of infantile paralysis recorded had there been any preceding infectious disease.

The onset of the disease was uniformly accompanied by a brisk febrile movement, temperature rising to 101 to 103 in the first twenty-four hours: sometimes by a slight chill (but this was the exception); usually by vomiting, malaise, general sweating, general severe pains in the limbs and in the back, sometimes attended by some rigidity of the spine and even in some cases by retraction of the head giving rise to the suspicion of a beginning meningitis. The excessive sweating which attended the fever has been observed in other epidemics, and is interesting in view of the fact that it implies an involvement of the vasomotor centers in the gray matter of the cord. Diarrhea frequently followed on the second day and continued for two or three days. Delirium was a common accompaniment of the fever on the second or third day. The febrile movement lasted from five to nine days in the majority of the cases. It was rarely attended by very high temperature, and even in the fatal cases temperatures above 104 were the exception. On the third or fourth day of the disease the paralysis was discovered. It may have developed a little earlier, perhaps on the second day in some of the cases, but the children were confined to bed; they were usually extremely tender to touch and showed such pain on movement that they were allowed to lie quiet, and hence the paralysis very often escaped notice until the third or fourth day. It usually appeared with considerable suddenness and at its maximum extent from the beginning. It remained as the chief symptom after the fever had subsided and after the pains had become less. In the vast majority of the cases the legs were chiefly affected. In some of the cases the disease affected the arms as well; in some cases the muscles of the back and even of the abdomen were affected. In a few cases paralysis extended to the neck and to the face, and in a few cases the eye muscles were also involved. The picture was, therefore, in some cases that of poliomyelitis of the ordinary recognized type; in other cases, of poliomyelitis with bulbar paralysis; in other cases, of poliomyelitis with polioencephalitis of Wernicke. In a few cases it was noticed that the children were affected by true infantile hemiplegia; and this disease appears to have been more common during last summer than usual, although by no means occurring in such frequency as poliomyelitis. The increased frequency, however, of the disease leads to the natural supposition that the infectious agent in some cases involved the motor nuclei of the lower segment, the spinal cord, the medulla, pons, and crus, and in other cases involved the motor nuclei of the cortex, producing the infantile hemiplegia or encephalitis of Strumpell.

In the cases of poliomyelitis where the legs were affected it was not at all uncommon to have retention of urine and loss of control of the bladder extending through several days, but in no case has a permanent loss of control been found. In many cases where the arms were affected the respiratory muscles were also involved, and in fatal cases death occurred from respiratory paralysis or from heart failure rather than from any febrile affection. When the face was affected a typical Bell's palsy was usually present with inability to close the eye and with a reaction of degeneration in the facial muscles. In the cases where the eyes were affected strabismus, either internal or external was observed, but this, as a rule, was temporary and in no cases that I have seen has a permanent strabismus remained. The paralysis was always of the flaccid type with rapidly following atrophy in the muscles and a rapid loss of faradic reaction.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The pain, which was a very marked symptom in almost all the cases, was referred to the muscles or to the back; was greater in the part that was paralyzed, though usually felt all over the body; and in some of the cases was attended by a hypersensitiveness to heat and cold, or to one or the other. Pain is a usual symptom in anterior poliomyelitis. It is undoubtedly due to the intense congestion of the gray matter of the spinal cord through which the pain and temperature tracts pass. Anesthesias were not observed. The limbs, however, soon became cyanotic and cold and remained so. In many cases an extreme hypersensitiveness to pain, especially the pain of the electrical current, was noticed, and in many cases this persisted.

The acute onset usually subsided in the course of a week or ten days and a state of improvement was noticed beginning at the end of the second to the fourth week. This improvement in a vast majority of cases has continued up to the present time, and as a rule such improvement is likely to go on for two years.

It has also been noticed that in many cases a complete recovery has ensued. In these cases the paralysis was never very intense but still was marked; in other cases it amounted merely to a sense of great fatigue and unwillingness to use the muscles for a week or ten days, followed by entire recovery. The frequency with which such cases, which might be termed "abortive cases," was observed is rather unusual, though in other epidemics the same type of cases has been noticed. On the other hand very rapidly fatal cases were observed, and, although the mortality is somewhat indefinite, it may be stated that it amounted in this epidemic to about 7 per cent. As death is a very rare occurrence in sporadic cases, the mortality in this epidemic is remarkable.

A number of these cases were very carefully studied by Dr. Martha Wollstein in the Rockefeller Institute for Medical Research under the direction of Dr. Simon Flexner. Through their courtesy I am enabled to present their results, which will be more fully published by them later. The following statement has been prepared by Dr. Wollstein.

A BIOLOGIC STUDY OF THE CEREBROSPINAL FLUID IN ANTERIOR POLIOMYELITIS.[1]

Twenty cases were studied in children ranging from 5 months to 8 years of age; nine were over 2 years, and four were under one year. Cerebrospinal fluid was obtained by lumbar puncture from the second day to the eighth week of the disease, as follows:

2nd day, 1 case. 7th day, 2 cases. 3rd week, 6 cases.
4th day, 2 cases. 10th day, 2 cases. 4th week, 1 case.
5th day, 1 case. 11th day, 1 case. 5th week, 1 case.
6th day, 1 case. 12th day, 1 case. 6th and 8th week (same case) 1 case.

The fluid was always clear and colorless, unless mixed with blood. Smears prepared at once, after centrifugalizing five to thirty minutes, and after twenty-four hours' incubation, were stained with methylene-blue and with Gram's method. In fourteen cases cellular elements were entirely absent; in six cases a few mononuclear leucocytes were found. Large numbers of leucocytes were never present.

Cultures were made in plain agar, ascitic-agar, and blood-agar, and in plain and ascitic bouillon.' They were incubated both aerobically and anaerobically. In fifteen cases the fluid was sterile by both methods. In one a white staphylococcus grew; in one a Gram positive bacillus and in three a large, Gram positive coccus appeared in tetrads and pairs within large groups. It grew abundantly on all ordinary culture media, and was apparently similar to the coccus described by Geirsvold. The fluids from which the coccus was cultivated in my cases were withdrawn on the fifth day, sixth day and in the fifth week after the onset. In two cases it was present in one specimen of fluid only, subsequent punctures withdrawing sterile fluid. In the third case the coccus was cultivated from a second specimen obtained three days after the first, or on the eighth day of the disease; two later fluids from the same patient proved to be sterile.

The coccus was looked on as a contamination.

An autopsy was obtained in one case only. It was that of a boy 2½ years old who died of tubercular meningitis two months after the onset of his poliomyelitis. An area of softening was found in the lumbar region of the spinal cord, 3 cm. long and affecting only the right anterior horn. There was also a general miliary tuberculosis involving the cerebrospinal meninges, pleura, lungs, spleen, liver, lymph nodes and intestines. Microscopic examination of the cord lesion showed that it was in the subacute stage and limited to the anterior horn.

The spinal cord, medulla, sciatic nerves, tibial muscles, and all the internal viscera were ground up, dried, and extracted (Levaditi and Marie's method) to be used in the complement deviation tests.

Blood was obtained from the median basilic vein in seven cases, 5 to 10 c.c. being withdrawn. Blood cultures in two acute early cases were negative.

Complement binding experiments were made in four different ways:

1. Cerebrospinal fluid from the most recent case (second day) was tested against the blood serum of cases suffering from the disease for five days, three weeks and eight weeks respectively. No binding of complement resulted; hemolysis complete.
2. Same fluid with the fluid from a late case, eighth week. Results the same.
3. Serum against cerebrospinal fluid from the same case, as well as against the fluid from more early and more recent cases. No binding of complement; hemolysis.
4. Extracts of spinal cord, medulla, sciatic nerves, tibial muscles and liver were tested with the serum from cases of poliomyelitis in the eighth week, third week and on the tenth day after the onset. No binding of complement; hemolysis complete. Controls were made with normal organ extracts and normal serum with identical results.

It was unfortunate that no uncomplicated autopsy could be obtained; but the results of the tests show that the diagnosis of poliomyelitis by means of a serum reaction is apparently not possible. No light is thrown on the etiology of the disease by this means.

THE BACTERIOLOGY OF THE DISEASE.

The question of the bacterial origin of this inflammatory process has excited the greatest interest during the past few years. Authorities are not as yet agreed on this question. A number of years ago Schultze described a case of anterior poliomyelitis in which he had found a diplococcus in the cerebrospinal fluid, and in isolated cases here and there through literature confirmation of this finding has been recorded. In the epidemic in Norway reported by Geirsvold a diplococcus was observed in a number of the cases. Harbitz and Scheel[3] described carefully the pathology of seventeen cases examined in this epidemic. They described the infiltration of the spinal pia with lymphocytes more marked on the anterior surface of the cord and following the sheath of the central arteries and veins. They describe a very marked condition of hyperemia, edema and exudation within the spinal cord and a marked cell infiltration in the gray matter of the anterior horns. They describe the infiltration of the vessel walls in the white substance with lymphocytes and a typical degeneration of the ganglion cells, but only in a few cases was there any evidence of the presence of micrococci. These were of the nature of diplococci, but were not uniformly found. In the careful autopsies made by Wickman in the Swedish epidemic the same conditions were observed and here again there was an absence of any uniform finding of bacteria. In eight autopsies careful cultures were taken; in four the result was negative. in one *Staphylococcus albus* was found, and in the three others *S. aureus* was discovered. These were considered as accidental infections of the test-tubes and not as causative agents of the disease. In the cases examined in the Rockefeller Institute in the epidemic in New York bacterial investigation was also negative.

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[1] From the Rockefeller Institute for Medical Research, New York.

While, therefore, the clinical history of the disease implies an infection, it must be admitted that up to the present time the organism responsible for the disease has not yet been discovered and that it is still a matter of uncertainty whether the causative agent is a micrococcus or is a toxin. The weight of evidence is, however, in favor of the latter hypothesis.

EPIDEMICS OF INFANTILE PARALYSIS.

A careful search through literature has shown that epidemics of infantile paralysis are more common than has been supposed. It has been possible for me to collect from original sources accounts of forty-four such epidemics, and as these have not hitherto been collated they are presented here in the order of their occurrence:

Colmer[4] saw a case of infantile hemiplegia in West Feliciana, Louisiana, in the fall of 1841 and was informed that ten other cases of infantile hemiplegia or paraplegia had occurred during the preceding three or four months within a few miles of the residence of the patient whom he saw. All the patients were under two years of age and all had recovered completely, or were improving.

In view of the accounts of subsequent epidemics here gathered, there seems to be no doubt that this was a true epidemic of infantile paralysis. Complete details are not to be found.

Bergenholtz[5] first reported an epidemic which occurred in 1881 in the town of Umea, North Sweden. Thirteen cases were observed, but a full account was never published.

Cordier himself[6] observed in June and July, 1885, in the town of Saint Foy, near Lyons, France, thirteen cases in a town whose population was fifteen hundred. Other cases were recorded and heard of in the same locality. These cases all occurred within the months of June and July; and of the thirteen cases, four died within four days of the onset, of respiratory paralysis. In all cases the onset was accompanied by fever, by severe pains and marked sweating. The incubation period was thought to be between ten and thirty-six hours. Almost all of the patients were infants under the age of 3, the youngest being 3 months old, several of them 6 or 7 months old. One man of 27, the brother of a little girl of 9, was the only adult affected. As the majority of the patients were nursing babies, it was thought that food could not have been the source of the infection. It was noticed that retention of urine occurred in one case. In ten of the cases the legs were affected, and in six cases one or both arms.

Oxholm[7] reported an epidemic in Mandel, Norway, in July, August and September, 1886. Nine cases were recorded without any deaths. The children were between six months and four years of age, and the onset was accompanied with fever in all cases.

Medin[8] observed an epidemic in Stockholm between the months of May and November, 1887. Forty-three cases were reported, in which there were three deaths. In many cases it was noticed that there was retention of urine from one to three days at the onset of the disease. Convulsions occurred in two cases. Bulbar symptoms occurred in nine cases; facial paralysis in three cases alone, and in five cases, in connection with paralysis of the limbs. In one case the muscles of the eyes were involved, and in one case a condition of hemiplegia corresponding to the polioencephalitis of Strumpell was observed. It was noticed in this epidemic that several cases occurred in one house, a brother and sister being affected together in one or two instances. Medin, who made this the subject of an important address at the Tenth International Medical Congress in 1890, was the first to call particular attention to the epidemic occurrences of infantile paralysis.

Putnam[9] observed in the summer of 1893 an unusual prevalence of cases of infantile paralysis appearing in the dispensaries of Boston. This can hardly be called an epidemic, for the patients came into Boston from several towns in the vicinity and the disease did not appear to be exceptionally prevalent in the city of Boston; but Putnam called attention to the fact that while in four of the dispensaries in the previous year the average number of patients was six or eight, in the year 1893 twenty-six cases were observed in the months of August and September. In none of the cases that he saw did a fatal result ensue, but all the children were left with some permanent paralysis.

André[10] saw four out of nine cases of infantile paralysis observed at Saint Girons, near Toulouse, in France, and in its two adjacent towns, Cescau and Seix, in July and August, 1893. These all occurred in infants under the age of 3 years, with fever and general symptoms of infection. A brother and sister were first taken, then two children in a house very near to them, then other isolated cases. Two out of the 9 cases presented cerebral symptoms. They all recovered.

Caverly[11] reported the first serious epidemic in this country, which occurred in Rutland, Vt., between July and September, 1894. Rutland lies in a valley; and it is interesting to note that in a large number of these epidemics the site of the occurrence has been near a stream in a narrow valley during a summer which has been extremely hot and rather dry, when the brooks run low and the stream is below its ordinary limits. This was the case in Rutland. Caverly records 126 cases, with eighteen deaths; 85 patients were under the age of 6, 21 between 6 and 14, and 13 over the age of 14, so far as the ages were recorded. In the majority of instances the disease began with a febrile onset; pain was noticed in many, so that for a time it was supposed that the disease might be a mild type of cerebrospinal meningitis. Convulsions occurred in many cases; in quite a number there was retention of urine; in two there were bulbar symptoms; in one, the face was paralyzed and in one some of the muscles of the eye. In the course of this epidemic it was noticed that a good many individuals were affected with an acute febrile onset, great prostration and much fatigue, where the disease did not go on to a true or permanent paralysis, and in a great many cases an entire recovery occurred. The legs were affected to a very much greater extent than the arms. It was noticed that in this epidemic animals—horses, dogs and chickens—were also affected.

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[3] Deutsch. med. Wochnschr., 1907, No. 48; also The Journal A. M. A., Oct. 26, 1907., p. 1420.

[4] Am. Jour. Med. Sc., January, 1843, p. 248.

[5] Bergenholtz, reported by Medin: Verhandl. d. x, internat. med. Cong., Berlin, 1890.

[6] Lyon méd., Jan. 1, 1888.

[7] Oxholm, reported by Leegard: Neurol. Centralbl., 1890, 760.

[8] Nord. med. Ark., 1896, No. 1.

[9] Putnam, J. J.: Boston Med. Jour., Nov. 23, 1893.

[10] Comp. rend. du Cong. de méd. de Bordeaux, 1895, 352.

[11] Caverly: New York Med. Record, Dec. 1, 1894; also MacPhail, Brit. Med. Jour., 1895.

Pieraccini[12] observed a small epidemic in Monte Spertoli, a small village not far from Florence, Italy, lying on the side of a mountain in quite a high altitude and a dry locality. This epidemic occurred between June 23 and August 10, 1895. There were but 7 cases, all the patients being under the age of 5. In 6 of the cases the legs were affected, in one case an arm, and in one patient internal strabismus was noticed. These patients all recovered.

Buccelli[13] saw a number of cases in the Ravecca quarter of Genoa in 1895. Other quarters of the city did not present similar cases. Two occurred in one house; two others were brothers; and during this epidemic it was noticed that several cases of cerebral palsy occurred at the same time, two of them in the same house with a case of spinal paralysis. These cases were not particularly severe. The legs were affected in the majority of instances. They all occurred with febrile movement. Buccelli adds that at the same time an epidemic prevailed in Arenzano, a small suburb of Genoa. Five cases were observed within a few days by Dr. Luciani.

Medin[14] observed an epidemic in Stockholm in the summer of 1895, which he reported with great care. There were 20 cases observed between the months of June and September. Three of these cases presented facial palsy and five of them bulbar symptoms. In all of them the onset was accompanied by fever, and in the majority the paralysis affected the legs. There were no cases of infantile hemiplegia noticed at this time, and no deaths. Medin believed that there was a specific poison causing the infection and that in several cases it was probable that the direct contagion could be traced from one patient to another. This epidemic occurred in the latter part of the summer and early fall, at a time when infantile diarrhea was quite prevalent in Stockholm.' The onset in the majority of cases was sudden, with fever and somnolence, but sweating was not specially noticed. Vomiting and diarrhea were common, and, in many cases, retention of urine. Pain and sensitiveness of the body were noted in very many cases. In two cases Medin considered the condition as probably polyneuritis rather than poliomyelitis, there being first pain, then hyperesthesia of the skin, followed by anesthesia of the legs. In five cases there was an acute ataxia which he also ascribed to peripheral neuritis. The fact that in both this epidemic and that which he observed in 1887, polioencephalitis acuta was observed in a number of cases led Medin to the conclusion that this disease was produced by the same infection as poliomyelitis, the only difference being in the location of the portion of the nervous system affected.

Altman[15] observed an epidemic of eighteen cases at Port Lincoln, South Australia, during the months of March and April, 1896, the hot and dry months in Australia. This appears to be the first epidemic on record in Australia. Port Lincoln is a small town having a population of fifteen hundred. The patients were all over the age of 3 years. In two instances two members of the same family were affected. The symptoms began with fever and pain and the paralysis developed on the third or fourth day in all the cases. In one case there was retention of urine, in one case facial palsy; and one case was hemiplegic in its type. None of the patients died.

Pasteur[16] observed at Much Hadham, in England, in the month of July, 1896, seven cases of infantile paralysis in one family living in the same house, all attacked within ten days. The neighborhood was a healthy one and there were no particular circumstances indicating in any way the cause of the disease. The children ranged in age from 1½ to 11 years. The first child had a paralysis of the left arm, the second had typical right hemiplegia, which was undoubtedly cerebral in nature, as the electrical reactions remained normal. The third and the fourth had fever for several days and general weakness, but had no paralysis. The fifth child had a typical spinal palsy of the left leg, the sixth had a febrile onset with general tremors and great prostration, with no paralysis, and the seventh child had a fever with a temporary internal strabismus. It would seem probable that in this family some poisonous agent had infected all the children who responded in different manners to the infection. There were no other cases observed in the neighborhood.

Taylor[17] saw in July and August, 1896, seven cases of infantile paralysis in Cherryfield, Me. This appeared to be infectious, as the second patient was a brother of the first, the third a cousin of the first and second, and the fourth was visiting in the house where the first three patients were affected. In all these four cases both legs were paralyzed and in three of them one arm was also affected. The fifth case was a little girl of 10 who died on the seventh day of the disease, the paralysis having ascended from the legs to the arms and affected the respiratory muscles. Two other cases were known to have occurred in the same town, but were not seen by Dr. Taylor. He also heard of two cases occurring at the same time in a neighboring town.

Bondurant[18] reports fifteen cases occurring in Greene County, Ala., during the summer of 1896, both whites and negroes being affected. There were no deaths. Malaria was prevalent at the time.

Buzzard[19] called attention to the fact that an unusual number of cases of infantile palsy were observed in a small district of London in September, 1897, and gives the details of eleven cases. Some of these developed subsequently to influenza. They were all children under 5, excepting one boy of 14. In two instances the patients were sisters, or a brother and sister. In one case there was retention of urine. In the majority of instances the legs were affected. In two of the patients the febrile onset was attended by great weakness, but rapid and complete recovery ensued. There were no deaths. Several other cases in addition to these eleven were heard of but not seen at the time.

Taylor[20] saw a rather unusual number of cases of infantile palsy at the Hospital for Ruptured and Crippled during July, 1897, and was under the impression that there might be an epidemic of the disease, though no other records of such an epidemic are to be found. The cases were widespread through the city of New York, and it is not certain that all had developed during the month of July, though it is quite unusual that twelve cases should appear at one hospital in one month, in this city. He does not record this as an epidemic, but in a letter to the *New York Medical Journal* inquires whether it might be the beginning of an epidemic.

Pleuss[21] records four cases which had been observed between June and September in Kiel. It does not appear, however, that this can be entitled to consideration as an epidemic, since the population of the city is so great. These cases might easily be accounted for as sporadic cases.

Newmark[22] of San Francisco records a small epidemic occurring in the town of Le Grand, Merced County, Cal., in June, 1898. It is a village of forty-nine people. Four children were affected, the first and second being brothers, the third a playmate of the first and second, and the son of the doctor who attended them. They were all boys from 8 to 10 years of age. The onset was with fever and the legs were paralyzed in all the cases. In one there was retention of urine for a week. None of the patients died.

Packard[23] records the fact that during the summer at Royersford, Pa., he had seen two cases of infantile paralysis developing in the same house within three days of each other in a brother and sister. This fact he considers of importance as supporting the infectious origin of the disease and also its possible contagion.

Auerbach[24] records a small epidemic occurring in Frankfort on-the-Main between May and December, 1898. There were nine

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12 Lo Sperimentale, Sept 21, 1895
13 Il Policlinico, June 15, 1895
14. Nord. med Ark., 1896, No 1
15 Australasian Med Gaz, 1897; Lancet, July 3, 1897.
16 Tr Clin Soc., 1897, p 143
17 Taylor, J. M: Philadelphia Med Jour., January 29, 1898.
18 Bondurant: Philadelphia Med News, Aug 18, 1901
19 Lancet, March 26, 1898
20 Taylor, H. L: New York Med Jour, 1897, p 192
21. Inaug. Diss., Kiel, 1898
22 Newmark, L: Med News Philadelphia, Jan 28 1899
23 Packard, F A Jour. Nerv and Ment. Dis, 1899 210
24 Jahrb f Kinderh 1899; Neurol. Centralbl, 1900 466

cases observed by him and several others were heard of. Two of these cases occurred in the same street. In one case facial palsy accompanied the paralysis of the arm and leg, but was of the peripheral type. In one case there was a recurrence of the disease in August after the first attack in June, a case which is worthy of notice as it is the only one that I can find on record of the occurrence in the same individual of two attacks.

Zappert[25] describes an epidemic which occurred in Vienna in 1898. Two hundred and eight cases were observed during that year and these cases occurred chiefly in the summer between June and November. Infants under three were attacked and no cases were observed in which children in the same family were attacked. There was no relation to other infectious diseases.

Wickman[26] observed fifty four cases during an extensive epidemic in Stockholm in the summer of 1899. Three patients died. The disease was attended by febrile onset and presented all of the characteristics of the epidemic type as seen in other epidemics. In three different houses two cases of the disease occurred, and in several families two or three cases were observed among cousins or brothers and sisters. The majority of the cases occurred in July, August and September, and almost all of the patients were below the age of 5. Wickman noticed that the disease was not generally spread through the city, but was particularly localized in certain parts, so that in neighboring houses in the same or in neighboring streets, groups of cases of three, five or seven were observed. In one instance there occurred a case in one dwelling house from which the family removed on October 1. A second case developed in this same house in the family that moved into the rooms which had been vacated by the first family not long after their entrance. He considers this as a pretty good proof of the contagiousness of the infection, of which he saw many other examples in the epidemic of 1906.

Leegaard[27] observed in Bratsberg, Norway, between April and November, 1899, fifty four cases of the disease. Thirteen occurred in August, September and October. All ages were affected, but the majority were children under 11. Two patients died. The disease had the typical febrile onset, the lower extremities were affected in more cases than the upper, in one case there was facial palsy and in one case the tongue was paralyzed.

Chapin,[28] who was called to see some cases in consultation during an epidemic in Poughkeepsie, N. Y., in July and August, 1899, gives the details of seven cases, with one death. Thirty or forty cases were observed by the physicians there during the summer. The majority of the cases went on to complete recovery, a fact which has been noticed in a number of the different epidemics and has a bearing on the prognosis. Some were left with permanent paralysis. In the case of the patient who died an autopsy was performed and a diplococcus was found by cultures of the spinal cord.

McKenzie[29] describes seventeen cases occurring in the small towns of Washington and Amenia during the summer and autumn of 1899. These towns lie about ten miles east of Poughkeepsie and the epidemic there coincided with the one described by Chapin. Persons of all ages were affected in this epidemic from infants of 2 to adults of 35. Of the seventeen cases three died within four days of the onset, one recovered entirely after four weeks' illness; in one case retention of urine was observed. Two of these cases presented symptoms quite similar to those of Landry's paralysis and were so described.

Painter[30] saw fifty two cases of infantile paralysis between the months of June and September, 1900, in Gloucester, Mass.; thirty eight of these cases were under his own care. They were in children between the ages of 13 months and 10 years, and presented all types of infantile paralysis. There were, however, no deaths. In a number of cases it appeared as if contagion was possible, two members of the same family being affected.

A. M. Woods[31] witnessed an epidemic in San Francisco in May and June, 1901. The weather was damp and cool. Fifty-five cases were recorded, of which twenty five were reported in detail. The majority of the cases occurred in infants. The onset was attended with fever and the paralysis affected the legs in many cases. There were no deaths.

Wickman[32] observed twenty cases in Gotteborg, Sweden, between the months of July and November, 1903. Eleven of these were under 2 years of age, five between 3 and 5 years of age, the remainder older. Three were sisters. In one instance there were two cases in the same house. One patient died. The usual history of febrile onset was observed in all the cases, and in all some slight degree of permanent paralysis was left.

A. Lorenzelli[33] saw twenty-six cases in Parma, Italy, between the months of March and September, 1903, chiefly in infants under the age of five. The disease began with fever and was not fatal in any case, but permanent paralysis was left in the majority of the cases.

Blackhall[34] observed six cases at Queanbergan, New South Wales, during an extensive epidemic of poliomyelitis in the months of December, 1903, and January and February, 1904, which is the hot season in New South Wales. Two of these patients were sisters, two were cousins, and one case occurred in the house next to the one in which the sisters were affected. They were all typical cases of infantile palsy. In one case there was a facial paralysis. None of the cases was fatal. Various epidemics in different places at some distance from one another were recorded by different authors.

Litchfield observed twenty-five cases at Sydney. He notes that the summer was rather wetter and cooler than usual and that during the summer there was an extensive epidemic of gastrointestinal influenza. The patients affected were all under the age of 6. There was an onset with fever and general malaise with sweating in one-half of the cases. In the other cases the disease appeared to come on with some prostration, but without much fever. All the extremities were affected in one case; two legs, in ten cases; one leg, in ten cases; one arm in four cases. There were no fatal cases. Lumbar puncture was not performed in any of the cases recorded by him.

R. B. Wade observed thirty-four cases at Stanmore, near Sydney, the patients being all below the age of 7 years. In almost all of these cases there was a febrile onset with vomiting, diarrhea and severe sweating. The temperature was between 99 and 100 for two or three days, then rose on the third or fourth day to 102, with an increase of the pain and the appearance of the paralysis. Paralysis appeared from the first to the sixth day. There was retention of urine in seven of the cases. None of the cases was fatal. In some of the cases there was complete recovery in two or three weeks; in the majority, however, some permanent paralysis was left. In several cases two or three members of a family were affected. Sometimes one member would develop paralysis and the others after several days of general malaise and undue fatigue would recover without paralysis. The legs were affected much more frequently than the arm. In one case the body muscles were involved, in one case the abdominal muscles, and in one case the face. This is the second epidemic known to have occurred in Australia.

B. B. Ham[35] saw a severe epidemic in Brisbane, Queensland, from October to December, 1904. One hundred and eight cases being reported, almost all of the patients being under the age of 10. Four of the cases were fatal. The course was febrile, the paralysis was limited to the extremities, there being no facial or bulbar paralysis. Cerebrospinal meningitis was prevalent at the time. No lumbar punctures were made. This was the third Australian epidemic.

Nannestad[36] observed forty-one cases of the disease in Hvalen, Norway, in the summer of 1904, between June and October. The majority of the patients in these cases were infants, but some were adults. The epidemic was light, the degree of paralysis not extreme, and no patients died.

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[25] Jahrb. f. Kinderh., l, lii, p. 125.

[26] Wickman, I.: Heine Medinsche Krankheit, Berlin, 1907, p. 148.

[27] Norsk Mag. f. Lægevidensk., 1901, 377.

[28] Chapin, H. D.: Arch. Pediat., 1900, 807.

[29] McKenzie, D. H.: New York Med. Rec., 1902, vol. lxii, p. 528.

[30] Painter, C. F.: Tr. Amer. Orthop. Assn., 1902, p. 414.

[31] Woods, A. M.: Occidental Med. Times, xvii, p. 77.

[32] Wickman: loc. cit., p. 149.

[33] Lorenzelli, A.: La Pediatria, 1904, p. 428.

[34] Blackhall, P.: Australasian Med. Gaz., 1904, p. 347.

[35] Ham, B. B.: Australasian Med. Gaz., xxiv, p. 193.

[36] Norsk. Mag. f. Lægevidensk, 1906, lxvii, 409.

PLATON[37] observed, in the same year and in another part of Norway, a small epidemic at Aafjorden, in the month of August. There were twenty cases and of these six died. A number of these cases appeared to prove the contagiousness of the disease.

GEIRSVOLD,[38] in Norway, reported the most extensive epidemic hitherto recorded, which occurred in Norway and Sweden in the summer of 1905. Geirsvold made a careful study of this epidemic in Norway and observed 437 cases around the neighborhood of Trondhjem, between April and October; there were sixty-seven deaths. In a number of cases it appeared as if the disease were manifestly contagious, and Geirsvold was able to trace the extent of the disease by contact from one village to another and from one house to another. It is, however, to be remarked that in a general discussion about the epidemic among the Norway physicians,[39] opinions differ as to the contagiousness of the affection. Some physicians laid particular stress on the condition of the water supply in various localities and pointed out that the disease was more prevalent in damp places surrounded by swamps. In this epidemic lumbar punctures were made by Geirsvold in eleven cases. From the fluid obtained through lumbar punctures micro-organisms were found many times. These were bean-shaped diplococci or tetracocci with flat sides toward each other, often seen in chains of four to six members. This diplococcus grew well in ordinary serum, and stained with aniline dyes. A particular feature of its character was the clear dividing line between the two half-balls which lay parallel to the axis of the chain. The same microbe was found in the pharynx of a patient suffering from poliomyelitis. Cultures from this micro-organism injected subcutaneously into mice, rabbits and dogs uniformly produced paralysis of their hind legs. This micro-organism was identified by Dethloff as the same organism found by him and Looft in 1901 in two cases of poliomyelitis and as the same micro-organism described by Huebner as occurring in a case of poliomyelitis under his observation.

WICKMAN,[40] in a remarkably careful study described in detail 1,031 cases occurring between the months of May and October, 1905, in the southern part of Sweden. These cases were distributed through a large number of small villages adjacent to one another, and Wickman believes that the records, which he has investigated with great care, prove conclusively the contagious character of the infection. Many cases occurred in the same house; in many instances two or more members of the same family were affected. In one town it was evident that sixteen or eighteen cases originated from the same schoolhouse. In the majority of instances some contact could be traced between one patient and another, and even the spread from one village to another could be accounted for by the passage of individuals from one town to the next town. The period of incubation appeared to be between one and four days. The poison remained in the house, so that new tenants were very often affected by the disease after old tenants had removed. In two cases an interval of one year's duration occurred between two cases in the same house. The care with which Wickman investigated the question of contagion and the mode of extension of the disease has not been equaled in the study of any other epidemic; and from his evidence it is very hard to escape the conclusion that the disease is actually contagious or that, like scarlet fever, it can be carried through the medium of another person to other individuals. Wickman calls attention to a large number of varieties in the disease. He speaks of the abortive type, in which individuals were ill for three or four days with febrile movement, followed by a condition of considerable prostration, and then a recovery with no paralysis remaining. Such cases have been recorded in many of the other epidemics, and therefore the conclusion may be accepted that there are light cases of the disease not recognized as paralysis because true paralysis does not ensue. He also calls attention to a type in which symptoms indicate the existence of polyneuritis accompanying the poliomyelitis. There is no question that the two diseases may occur together in sporadic cases of infantile paralysis; and in the other epidemics isolated cases have been reported in which the pain, the tenderness along the muscles, the hypersensitiveness of the skin, all indicate the possibility of an involvement of the peripheral nerves. It is therefore probable that this type of the disease should be recognized. The existence of bulbar symptoms, and particularly of cranial nerve symptoms, in a number of the cases is insisted on by Wickman, but these have been observed as already stated in many of the previous epidemics. It may be mentioned that in Sweden dogs and other animals were apparently affected with this disease at the same time as children. It will be recollected that Caverly called attention to this fact in connection with the epidemic in Vermont.

Lumbar puncture was performed in a number of the cases observed by Wickman and cultures made of the spinal fluid, but no trace of the diplococci described by other authors was found, and even in the cases that came to autopsy cultures of the spinal cord failed to reveal any micro-organisms. Wickman therefore places a certain amount of doubt on the observations of Geirsvold already described.

WICKMAN[41] saw a smaller epidemic in Sweden in 1906, only fifty cases being observed. They presented the same features noticed in the larger epidemic.

LUNDGREN[42] observed an epidemic of anterior poliomyelitis at Vardo in Norway in the summer of 1905. He records 403 cases, occurring chiefly between the ages of 6 and 15, though some adults were also affected. This disease apparently was contagious, as many cases were traced where the contagion seems evident. He thinks the time of incubation is from eight to ten days. This epidemic was a very fatal one, for 10 per cent. of the patients died. Many recovered, but permanent paralysis of some type was left in 25 per cent. of the cases.

TERRIBERRY,[43] who first called attention to the extensive epidemic occurring in New York in the summer of 1907, heard of a small epidemic at Ridgway, Pa., which occurred during July, August and September, 1907; and he visited the town in order to investigate this epidemic. He found Ridgway situated in a valley in the Allegheny Mountains about sixteen miles in length. Fifty cases developed in this little valley, the first case appearing at Elk Creek, where twelve cases were observed. Two weeks later cases appeared at Ridgway, nine miles below Elk Creek, and in that town thirty cases eventually occurred. One week after the case appeared in Ridgway, cases developed at Portland Mills, nine miles below Ridgway, and there eight cases in all developed. It was evident, therefore, that the disease extended down this valley in a definite direction, and that the incubation was in some cases one week, in others two.

Of the fifty patients four died. The patients were all children and in every instance two or three members of the same family were attacked by the disease. He mentions that in three cases bulbar symptoms developed.[44]

GRIFFIN[45] reports an epidemic occurring in Oceana County, Michigan, in the summer of 1907. There were twenty cases, chiefly in infants; the limbs were paralyzed in all cases. In one case the face was involved.

S. M. FREE[46] reported an epidemic observed at Dubois, Pa., in the summer of 1907. Over one hundred cases were observed in the Allegheny Mountains about Dubois. There were only a few deaths. The disease presented some meningeal symptoms and much pain and the paralysis involved the legs, chiefly. Pigs and chickens also were affected.

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[37] Tidssk. f. d. norsk. Lægefor., 1905, 601.

[38] Norsk. Mag. f. Lægevidensk., 1905, 1280; Jahrb. f. Kinderh., 1906, lxiv. 255.

[39] Tidsskr. f. d. norsk. Lægefor., 1906, 109.

[40] Wickman: loc. cit., p. 150.

[41] Wickman: loc. cit., 262.

[42] Lundgren, H.: Hygeia, 1906, p. 1089.

[43] Long Island Med. Jour., December, 1907.

[44] Several authors in collecting the accounts of epidemics have included in their lists references to Briegleb, Inaugural Dissertation, Jena, 1890. The cases reported by Briegleb, however, were single cases developing in places far apart and could by no means be regarded as an epidemic. One author has mentioned Cervesato as having reported an epidemic in Padua in 1897. The article of Cervesato, Corriere de Milano, 1897, viii, No. 1, is an analysis of twenty-six cases of the disease, and calls attention to pain as the initial symptom in poliomyelitis, but is in no sense a record of an epidemic.

[45] Griffin: Jour. Mich. State Med. Soc., February, 1908, p. 142.

[46] Free, S. M.: Jour. Nerv. and Ment. Dis., April, 1908, p. 259

PROGNOSIS.

Some interesting facts in regard to prognosis have been elicited in connection with these recent epidemics. Ordinarily the mortality of anterior poliomyelitis in sporadic cases is very low, but it will be remembered that in the epidemic types the mortality has varied from 6 to 10 per cent., which makes the disease an alarming one. It has been noticed that in the fatal cases death occurred as a rule between the fourth and tenth days, the majority of fatal cases terminating on the sixth day from the extension of the paralysis to the respiratory muscles. High fever was not often noted and there was no evidence, as a rule, of heart failure, but the paralysis extended upward, involving the respiratory muscles of the throat, and patients died of respiratory palsy. The prognosis, therefore, is always serious while the disease is advancing or while the paralysis is extending, especially as it extends upward. If a child survives the eighth or tenth day, prognosis for life is favorable.

On the other hand, epidemics have demonstrated the fact that in 25 per cent. of the cases there is complete recovery. Such complete recoveries are not often observed in the sporadic cases where, as a rule, a few muscles remain partially paralyzed for the rest of the child's life.

There remain, however, a large number of cases in which, as in the sporadic types, a permanent paralysis of some kind is left.

TREATMENT.

During the early stage of the disease at the onset cupping of the back by dry cups applied for a short time only but repeated two or three times a day may relieve the congestion that is present. Ice-bags applied to the spine may have the same effect, and sponging of the body with cool water or with water and alcohol may keep down the fever to a certain extent. As a rule, children in this stage are in great pain and require some sedative. Acetanilid, antipyrin or phenacetin in appropriate doses for the age may be given. It is not unwise to use Dover's powders in connection with the coal-tar preparations. The children should be kept very quiet, as their limbs are exceedingly tender. A brisk purgative should be given, and the nutriment during the first two or three days should be chiefly milk. Dr. Cushing, of Baltimore, has recently proved that the administration of urotropin results in the presence of formaldehyd in the cerebrospinal fluid as demonstrated in his cases of cerebral surgery. This fact, which I can confirm, may be utilized in the treatment of nervous diseases where an infection is suspected, and hence the use of five grains of urotropin every four hours to a child of 8 years and smaller doses for infants may be tried during the onset of the disease or until fever subsides. Salicylate of soda has been given also in the early stage by some observers with apparently good effect. I prefer salicylate of strontium as less likely to irritate the stomach.

After the stage of onset is over and the pain has subsided it is wise to stop medication for two weeks and then begin the use of strychnin, which should be pushed in these cases as far as is consistent with safety. I have seen marked improvement under the use of one-fortieth of a grain of strychnin three times a day to a child of 8; a rather high dosage, to be reached only by progressive small increase over the initial dose. The condition of the muscles can certainly be markedly improved by manipulation, by massage, by rubbing the limbs with oil or cocoa butter, or allowing the child to play daily or twice a day in a warm bath for half an hour or more, or by applications of galvanism, both constant and interrupted. It is especially important from the very beginning of the case to prevent the development of deformities, which, in the majority of instances, are simply due to the action of gravitation on the limb whose ligaments are relaxed and whose muscles no longer act on the joints as ligaments. Proper position should, therefore, be insured by carefully adjusted braces when the child is out of bed and by properly adjusted pillows and little sand-bags to hold the feet in position when the child is in bed. The numerous severe deformities which subsequently require section of the tendons, if neglected, can always be prevented by properly adjusted orthopedic apparatus, and it is never wise to delay the application of such apparatus until the deformity has been produced. The orthopedic treatment of these cases is more important than any other.

5 West Fifty-fourth Street.

DISCUSSION.

Dr. Wharton Sinkler, Philadelphia: The epidemic of poliomyelitis in New York last year was the largest on record. No doubt a great many unrecorded epidemics have occurred. A few years ago a child suffering from poliomyelitis was brought to me from a small town in North Carolina. The parents told me that several other cases had occurred at about the same time as their child's case. There are a number of points of dissimilarity between the symptoms in the epidemic form and the sporadic form of poliomyelitis. The mortality is much greater in the epidemic form. I have seen only one case of complete recovery. The child was treated with salicylate of sodium. I have always felt that the salicylate of soda is a remedy indicated in the treatment of poliomyelitis in the early stages. In the epidemic form there is a more diffused and general involvement of the whole nervous system, involving the meninges to a great extent, which does not exist in the sporadic form. The seasonal relation is the same. A large majority of sporadic cases occur in the hot months of summer, and the same has been the case with every epidemic recorded. I saw recently a child who had had apparently two separate attacks. The right leg was first involved and the paralysis receded; fairly good recovery took place. At the end of three weeks the left leg was involved, and when the child was brought to me there was flaccid paralysis of the left leg.

Dr. Charles K. Mills, Philadelphia: While the disease has not prevailed in Philadelphia and vicinity as it has prevailed in New York, during the last two or more years the number of cases has increased. The disease in our own neighborhood has not received the attention that it should. One general practitioner in Philadelphia had about twenty cases. I saw two or three of these, one of most severe type and yet not fatal, in which the child was paralyzed literally from the neck down, and barely succeeded in breathing and maintaining cardiac action. At the neurologic service at the University of Pennsylvania we have had many cases brought not only from the city but from a distance, from Clearfield county, for instance, where the disease seemed to be endemic.

The probability of the occurrence of a true neuritis in these cases of poliomyelitis is worth remarking. Dr. Starr has referred to the frequency with which pain has been present. In cerebrospinal meningitis I indicated a number of years ago that multiple or diffuse neuritis occurs as part of the disease. On the edge of the epidemic, in the early months of it, I saw two cases of multiple neuritis in children, one about 13 or 14 years old, and the other younger. I have seen a few patients who have completely recovered, and several who have nearly recovered. No cases in my own experience have been fatal, but in several the disease has been of an extremely severe type. I believe in the occurrence of Strümpel's poliomyelitis or encephalitis, and I have seen cases.

F. X. Dercum, Philadelphia: I found a diplococcus in a sporadic case of poliomyelitis some years ago. However, I did not regard the finding as of value. I am convinced that the pain in the epidemic cases which we have had in Philadelphia is much more marked than in sporadic cases. In sporadic cases the pain has, in my experience, been a negligible factor, but during the present epidemic the pain in some cases was atrocious, and was not influenced by salicylate of sodium. It would be interesting if the final conclusion were to be that there are two different affections, similar only in a few points in regard to their symptomatology. Certainly the suggestion that the cases of the present epidemic were contagious would be in keeping with such a view. I have been impressed in the cases that I have seen by the relatively high degree of recovery; the attack had in some cases swept through the nervous system like a cyclone and yet left mere traces behind.

Dr. Frank R. Fry, St. Louis: I believe that in this epidemic form older patients are often attacked, and for that reason some cases are overlooked. Three years ago we had an epidemic in St. Louis, not nearly so extensive as many in the east, of course, yet enough of an epidemic so that we noticed many cases. The general data only and no statistics were collected, showing plainly that there had been an epidemic, and among the cases a number of cases in young adults.

Dr. L .H. Mettler, Chicago: In these forty-four various epidemics, particularly the last one, has there been a partial or complete repetition from year to year of other cases in the same localities? I think Oppenheim has made the statement that almost all his cases of this disease came from one particular locality, not far from Berlin; thus leaving one with the impression that there is an endemic character, at least in some respects, to the trouble. This might account for the various outbreaks at different times and of varying degrees.

Dr. Frank P. Norbury, Jacksonville, Ill.: In central Illinois, three years ago, during the time that poliomyelitis was prevalent in St. Louis, I saw about eight cases. Two occurred in young adults, one a college student, a young man about 18, another in a young farmer of about 25. Both were cases of anterior poliomyelitis.

Dr. William G. Spiller, Philadelphia: Meningitis has been found as a complication in cases of poliomyelitis, and the pain may be caused by the meningitis. The lesions are not always confined to the gray matter in poliomyelitis. I have seen the typical findings in the lumbar region of a spinal cord, whereas sections from the thoracic region of the same cord showed involvement of the white matter. Strümpell's form of polioencephalitis exists. I have examined the specimens from three cases in which the lesions were almost confined to the gray matter in a limited area of the cortex. One was from a case of Dr. Mills, another from a case of Dr. Moleen, and the third from a case of my own. In the late stages of poliomyelitis nerve transplantation may be of service. Often a nerve is cut and inserted into another nerve without transverse division of the second nerve. The results have not always been favorable. The best results may be expected from end-to-end anastomosis. Bikeles cut certain nerves in one leg of a dog and inserted them in another nerve, without cutting the nerve across into which he made the insertion. In another leg he cut the nerves entirely across and anastomosed the central end of one nerve with the peripheral end of another nerve. He allowed the dog to live 294 days after one operation, and 210 days after the other, and then cut the nerves below the point of operation. When a nerve is cut reaction at a distance occurs in its nerve cells, and Bikeles showed that no alteration of the cells of the nerve into which the insertion had been made occurred, whereas alteration followed on the side of the end to end anastomosis; indicating that on this side only had physiologic union occurred after the previous operation. From this experiment we may conclude that in operations on nerves in cases of poliomyelitis our results will be better if we partially or completely divide the healthy nerve before uniting it with the diseased nerve.

Dr. Charles R. Ball, St. Paul: In two cases of poliomyelitis in adults, which I reported several years ago, one a boy of 16 and the other a man of 40, I had the opportunity of seeing those cases during the acute attack. The fever never went high—not over 101—and then perhaps only for a short time—a portion of a day, and yet the paralysis following was quite severe. Is there any relation between the severity of the acute symptoms and the following paralysis? Has Dr. Starr observed whether the residual paralysis left in adults having acute poliomyelitis is apt to be greater than in children?

Dr. A. R. Allen, Philadelphia: We have had at the disposal of the University of Pennsylvania at least two cases of typical anterior poliomyelitis which showed, for a number of weeks after the onset of the symptoms, distinct nerve pain on pressure along the nerves. In one case the tibialis anticus was extremely tender to pressure, and we thought that it was a case of neuritis in connection with antërior poliomyelitis change.

Dr. Henry W. Frauenthal, New York: In the last epidemic treated in the last month, the patients over 10 years of age have recovered early as compared with those who are older. I recall the case of a patient 17 years of age, treated for deformities and joint diseases, in the hospital (which takes in no patient under 14 years of age), who has had two hours' treatment daily with electricity and massage. The boy has made comparatively little progress toward recovery compared with improvement made by patients treated for a short time three days in the week. In my experience patients over five years old do not recover as quickly or as completely as children under that age.

Dr. D. I. Wolfstein, Cincinnati: Dr. Buzzard in a recent article says that many cases of so-called infantile paralysis occur in early adult life, and even in later years. It would be interesting to know whether or not any of the cases diagnosed as infantile paralysis might possibly have been acute cases of this toxic form of neuritis, and whether the differential point that Dr. Buzzard makes in connection with that, the early involvement of the facial muscles, was noted.

Dr. Morton Prince, Boston: I noticed in Dr. Collin's collection of cases in the same epidemic that the third and sixth nerves in these cases were found to be paralyzed. His patients were all below 10 or 11 years of age.

Dr. H. Ostrander, Kalamazoo, Mich.: There is an epidemic of this kind in western Michigan, including twenty-five cases, some of which I saw. In a number of families where children had the disease, there were adult cases presenting acute symptoms of the onset of the disease; they had the rise of temperature, the terrific pain and bowel trouble, but there was no paralysis following.

Dr. M. Allen Starr: In answer to Dr. Sinkler's question about recurrence, there have been cases reported in other epidemics, one by Gieswold, in Norway, of the patient having an attack in one leg with apparent partial recovery, and a second attack nine weeks later in the opposite leg. Wickman records two cases of recurrence at an interval, in one case of eight weeks, and in the other three months. I have never seen a case of recurrence, but I saw a little boy who was attacked last summer with anterior poliomyelitis in the right arm; and I found he had pseudohypertrophic paralysis in both legs and back. The two diseases had naturally been confounded, but it was easy to show that the pseudohypertrophic paralysis had been of gradual onset for the past three years, while the poliomyelitis had come on in the arm as an acute attack. In answer to Dr. Mills and others, the differential diagnosis between neuritis and poliomyelitis is not always an easy one. I have been unable to find on record any cases of distinct demonstration of neuritis associated with poliomyelitis, although the pathologists who have written on this subject have detailed cases of degeneration in the anterior nerve roots and in the anterior nerves passing downward to the muscle. Anything like the acute congestive condition with exudation in the nerve sheath has not been observed, so far as my knowledge goes, and Wickman's pathologic observations and those of Harbitz and Scheel in the Norway epidemic, show a particularly careful record of the condition of the nerves. Pathologically we lack the demonstration of the coincidence of multiple neuritis with anterior poliomyelitis. That multiple neuritis does occur and that it does occur in a toxic type in children I freely admit, because I have seen cases, but I think that they are extremely rare. That multiple neuritis is rare in connection with anterior poliomyelitis is proved by the fact that we do not find conditions of anesthesia of a permanent type or even of a glove stocking temporary type, in cases of anterior poliomyelitis, while that is characteristic of multiple neuritis I am unwilling to admit that the mere existence of pain is a proof of multiple neuritis in connection with anterior poliomyelitis.

In answer to Dr Fry the vast majority of patients in New York ranged in age from 6 to 7 months up to 8 years, but cases occurred in patients aged 32 I witnessed and investigated carefully the epidemic of Rutland, Vt —144 cases—and there saw patients as old as 54 No age is exempt

It seems to me that the proper treatment of the chronic state of the disease is clearly orthopedic. The transplantation of tendons has been a great deal more satisfactory to me than transplantation of nerves I have had nerves transplanted, but not with the good results that I have had in splitting the muscles and tendons, and so making practically new muscles for the children. If you have a single muscle left below the knee you can repair the paralysis of almost all muscles of the foot. There is no relation between the degree of fever and the amount of paralysis, and the residual paralysis is greater in adults than in children There has been no examination of the excreta for the detection of the particular toxin. The recovery is slower and much less in degree in adults than in children. I have two cases in which the third nerve was paralyzed, in addition to several cases in which the sixth nerve was paralyzed. The existence of abortive cases was not recognized until Wickman made his investigations It is important to recognize the existence of cases of extreme fatigue and malaise in children, with unwillingness to move, which do not amount to anything in the way of a true paralysis afterward.

I consider electricity applied to the central nervous system as utterly useless in every particular, and that a lesion of the brain or of the spinal cord can not be affected in any way by the passage of a galvanic, faradic or other current through the central nervous system The muscles can be toned up very well by anything that will cause them to contract; but as for increasing the nutrition of the spinal cord or replacing one little nerve cell by the electric current, I do not believe any body ever did it.

THE OPTIC NERVE CHANGES IN MULTIPLE SCLEROSIS.

WITH REMARKS ON THE CAUSATION OF NON-TOXIC RETROBULBAR NEURITIS IN GENERAL.*

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It seems scarcely necessary to dwell on the established facts of the optic nerve changes in multiple sclerosis. These are familiar through the statistical studies of Uhthoff[1] and those who have followed him. We know that ophthalmoscopic changes in the optic discs are found in about half the cases of this disease, that visual disturbances are frequently early symptoms—sometimes preceding any other symptoms by months or years—that the visual disturbances are often of sudden onset, and, if slight, frequently remain long unprogressive, and if excessive usually improve, the course of the optic nerve changes thus differing radically from the slow, steadily progressive atrophy of tabes.

I shall take it for granted, also, that it is the custom to examine the fundus and determine the fields of vision in every case in which multiple sclerosis is suspected. Optic nerve changes, if present, will help to confirm the diagnosis. Thus ophthalmoscopic changes in the discs will exclude hysteria; and since optic nerve changes are rare in early paresis, if not complicated by tabes (I found the discs normal in seventy consecutive cases of early uncomplicated paresis), one can exclude this disease, into which many cases, diagnosed as multiple sclerosis, develop after they have come into the hospitals for the insane.

It will be more to the purpose to base my remarks on a number of illustrative cases, considering them under several headings.

A. THE PATHOLOGIC CHANGES IN THE OPTIC NERVES IN MULTIPLE SCLEROSIS.

The cause of disseminated plaques of sclerosis in the central nervous system is still unknown. It is agreed that the histologic changes consist of localized vascular disturbances, with exudation of round cells, and of degeneration of the medullary sheaths of the nerve fibers, while the axis cylinders and ganglion cells are long preserved. Hypertrophy of the neuroglia usually fills the spaces left by the disappearance of the medullary sheaths.

The degenerative changes may remain limited to the plaque or medullary degeneration may extend upward or downward. Restoration of the degenerated medullary sheaths often takes place and the fibers then resume their function.

Typical pathologic changes in the optic nerves and chiasma were found in the following case:

Case 1.—A woman, aged 27, died at the Montefiore Home of infection after cystitis and pyonephritis, which were manifestations of multiple sclerosis.

History.—Seven years before her death she fell and dislocated her right hip. A year later she noticed weakness, numbness, and coldness of her right leg, which lasted for two months. Four months later the same symptoms were experienced in her left leg. These cleared up in two months

Eye Symptoms.—About this time there was a sudden diminution of vision and it was said that she was "blind in one eye and color blind in the other." Vision improved, and she was comparatively well for a year and a half. Four years before her death her left leg again became weak and numb. Her gait was staggering. There was disturbance of micturition. There were diplopia, nystagmus, poor vision, slow and monotonous speech, deafness, and poor memory for recent events. Three years befor her death temporal pallor of the discs was noted.

Pathology.—At the Pathologic Institute of the New York State Hospitals, serial vertical sections were made under the direction of Dr. Dunlap, through the optic *nerves, chiasma, and* tracts, and these were stained with Wolter's medullary stain and with hematoxylin eosin. In a section through the optic nerves at the point of their emergence from the chiasma, there is seen (Fig. 1) a diffuse degeneration, particularly in the central or papillo macular bundles of fibers in each nerve, which accounts for the temporal pallor of the optic discs seen in life. This degeneration consists of an absence of a certain number of medullary sheaths in each affected bundle. The degeneration can be followed down the optic nerves toward the eyeballs. Further back in the chiasma there is a sharply outlined oval plaque, in which the medullary sheaths are almost entirely wanting. The affected area appears to be rarified rather than sclerosed, and there is no increase in the number of neuroglia nuclei, and neuroglia fibers form a loosely meshed network (Fig. 2). The degenerations in this case are old, and no inflammatory conditions are found, as was to be expected.

Such being the characteristic pathologic changes in the optic nerves in this disease, it is obvious that they may give rise to a variety of types of visual disturbance.

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*Read in the Joint Meeting of the Section on Nervous and Mental Diseases and the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908

[1] Graefe Saemisch, xi, p. 337.

B. THE TYPES OF FIELDS OF VISION, AND THE CORRESPONDING OPHTHALMOSCOPIC CHANGES IN THE OPTIC DISCS.

The visual disturbances fall chiefly into three groups: (1) Concentric contraction of the field of vision; (2) central scotoma with normal peripheral limits of the field, and (3) a combination of concentric contraction of the field and central scotoma. These types of fields are associated, to a certain extent, with characteristic ophthalmoscopic appearances of degeneration in the optic discs. Discrepancies may occur, however, since in rare instances there may be some degree of papillitis, and, again, a lesion far back in the nerve may cause visual disturbances long before a descending degeneration leads to pallor of the disc, while conversely the clearing up of a lesion in the nerve may lead to improvement in vision while the disc, after once becoming pale, remains so.

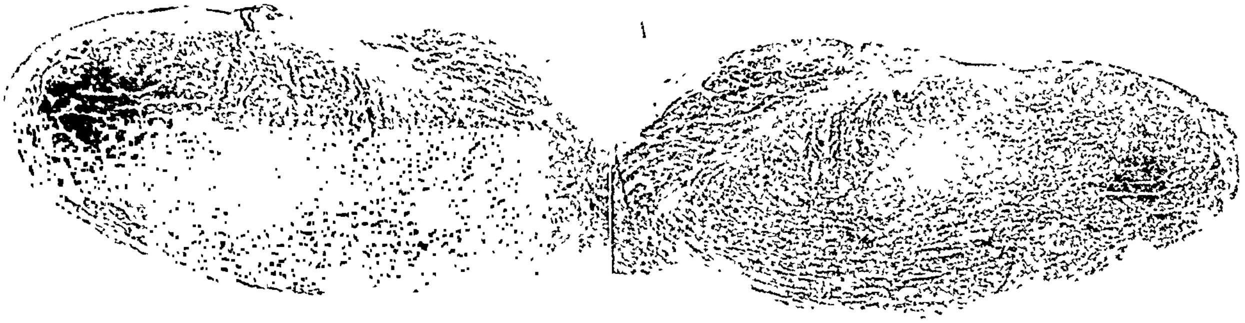

Fig. 1.—Optic nerves in cross section where they emerge from the chiasma. Wolter's medullary stain shows pale areas of degeneration, chiefly in the central bundles of each nerve.

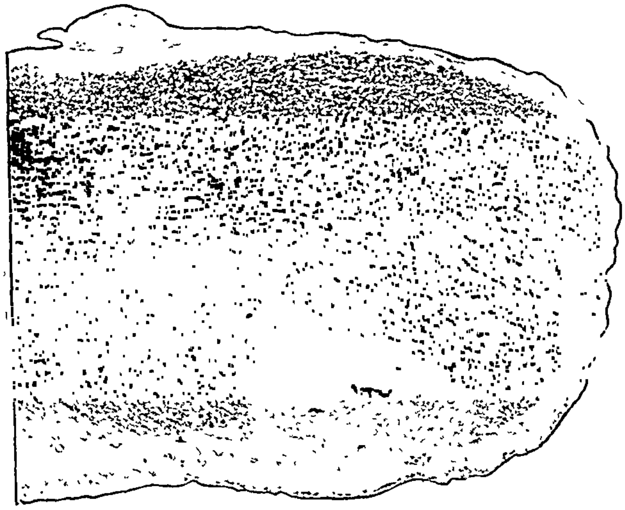

Fig. 2.—A peripheral, sharply-outlined, oval, sclerotic plaque in the chiasma, with a large vessel in its center (below and to the right). Wolter's medullary stain. The fibers which run through the plaque preserve their medullary sheaths in sections anterior to it, but posteriorly a certain degree of ascending degeneration in the optic tract can be made out.

Normally, the temporal portion of the disc is paler than the nasal portion, and while in diffuse degenerations of the nerve, with concentric contraction of the field of vision the entire disc may become pathologically pale, this pallor is always more pronounced in the temporal portion of the disc. The axial or papillo-macular bundle of the optic nerve which is distributed to the region of the macula lutea, the center of distinct vision, lies in the center of the optic nerve as it emerges from the chiasma, but when it has descended to the optic disc it occupies the inferior temporal quadrant of the disc. When the papillo-macular bundle alone is involved, in cases with pure central scotoma, the inferior temporal quadrant of the optic disc alone shows a pathologic pallor.

Concentric contraction of the field of vision is well shown in the following case:

CASE 2.—A man, aged 21, four and a half years ago noticed vertigo and a staggering gait. Six months later tremor of the head and hands came on, and there was difficulty in speaking. Now there is marked nystagmus and great difficulty in walking.

Examination.—Three years ago his vision failed during a period of four months and has since been stationary. O. D. = 20/50; O. S. = 20/30. There is concentric contraction of the fields. On the right side, the contracted limits of the field for a 1 cm. square of white on a black ground are shown in Figure 3 by the heavy unbroken line; the contracted limits of the field for a 1 cm. red square on a gray ground are shown by the broken line. The red square can be seen as far away as five feet, and is seen more clearly at the point of fixation than to one side. The disc presents a marked pallor in its entire extent, except in a narrow crescentic zone at its nasal margin. The outlines of the disc are well defined. The arteries are small, the veins are of normal caliber (Figs. 3 and 4).

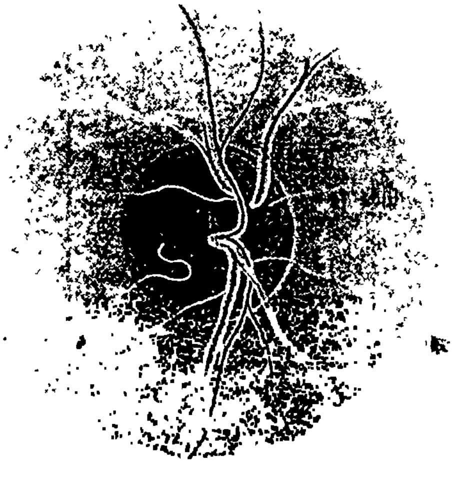

Fig. 3.—Case 2. Concentric contraction of the field for white and red, with well-marked pallor of almost the entire disc.

The next case exhibits a central scotoma.

CASE 3.—A man, aged 29, noticed five years ago paraesthesia of the feet, then weakness and stiffness of the legs, increasing for a year, when he became unable to walk. Two years ago he lost control of his arms. For a time there was diplopia. Now there is constant nystagmus and difficulty in speaking.

Examination.—Five years ago his vision failed gradually for six months, and has since remained stationary. O. D. = 20/50, O. S. = 20/70. For the left eye, the limits of the fields for white, for a 3 mm. black dot and for red are normal, but the red square can not be recognized at a greater distance than eighteen inches, and it is seen at this distance obscurely in a central field 15 degrees in diameter, and more clearly on every side (Figs. 5 and 6).

There is pallor of the left optic disc limited to the inferior temporal quadrant. The outline of the disc is well defined and the arteries and veins are of normal caliber.

The next case illustrates a combination of concentric contraction of the field and central scotoma.

CASE 4.—A woman, aged 27, met with an accident two years and a half ago. Eight months later she had pains in the head, neck, chest, hips and fingers. Her feet felt numb. Now there is constant nystagmus and great difficulty in walking. She has never had diplopia.

Examination.—The vision of the left eye became affected soon after the accident and while there have been fluctuations in the sight, no great change has taken place. O. D. = 20/30; O. S. = 20/100. The right optic disc and fields are normal. On the left side there is concentric contraction of the field for white (Fig. 8). In the central portion of the field red is not recognized in the area indicated in the chart by the dots. The disc is slightly pale in its entire extent and the inferior temporal quadrant is still paler. The outline of the disc is blurred and the veins are dilated.

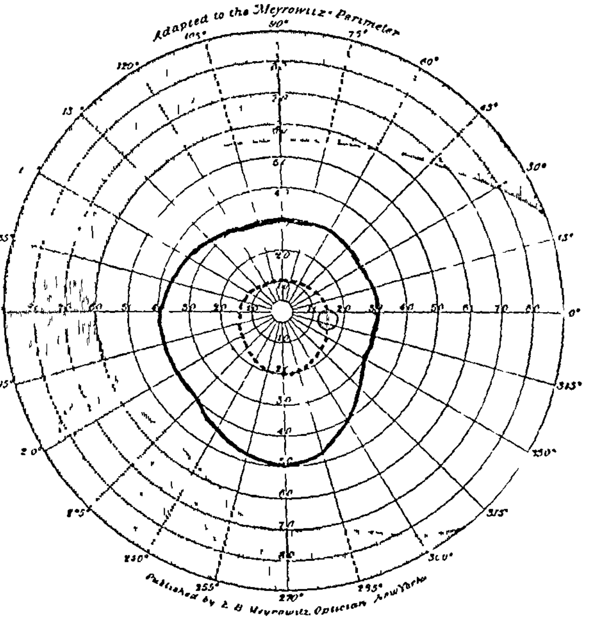

Fig. 4.—Case 2. Diagram of visual field, showing concentric contraction.

These three hospital cases examined recently give one a fair idea of the changes in the visual fields and in the optic discs likely to be found in multiple sclerosis.

C. RETROBULBAR NEURITIS THAT IS PROBABLY AN EARLY SYMPTOM OF MULTIPLE SCLEROSIS.

In the cases described above the optic nerve changes clearly were due to multiple sclerosis. But when visual disturbances, suggestive of multiple sclerosis, are not accompanied by other symptoms of the disease there may be much doubt as to their nature. Furthermore, visual disturbances may precede all other symptoms of this disease for years, or, possibly, since this is sometimes a monosymptomatic disease, the optic nerve disturbances may be the only symptoms.

A case of retrobulbar neuritis suggestive of multiple sclerosis, but unaccompanied by any other pronounced symptoms of the disease, is the following:

CASE 5.—A year and a half ago, I saw a man of 23, who said that the sight of his left eye had become blurred nine months before, and that the sight of the right eye had become blurred three months later.

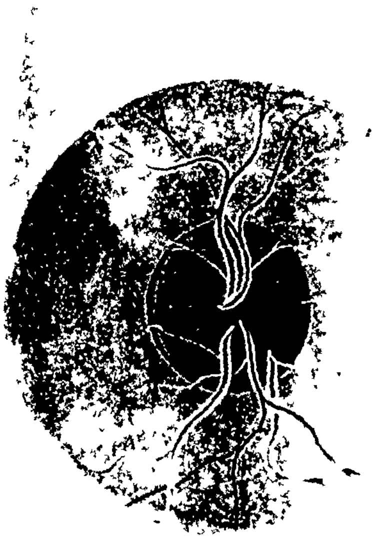

Fig. 5.—Case 3.—A relative central scotoma for red; with pallor of the inferior temporal quadrant of the optic disc, in which lies the papillo macular bundle.

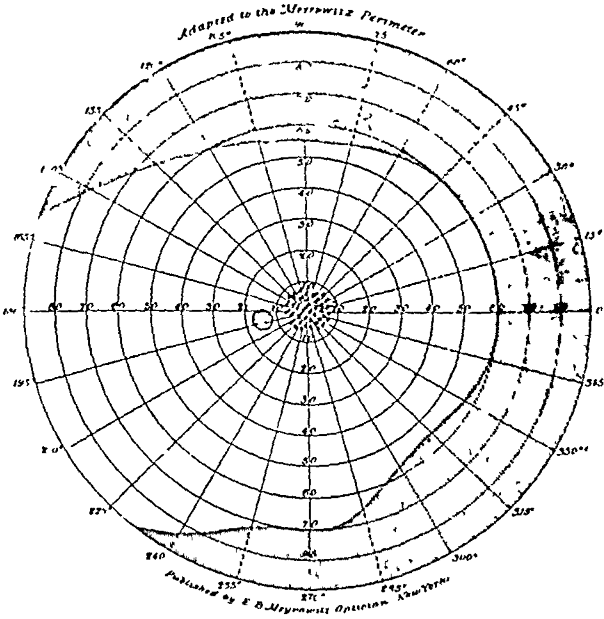

Fig. 6.—Case 3. Visual field. The dotted area represents the relative central scotoma for red.

Examination.—His vision failed rapidly, at first, then remained stationary, and in the few weeks before I saw him, he had noticed some improvement in the vision of the eye first affected. He could count fingers with either eye at a distance of four feet with eccentric fixation. The limits of the field for white for each eye were normal. Red could be seen faintly in the periphery of the field of the right eye, but not at all in the field of the left eye. There was an absolute, circular, central scotoma for white, about 25 degrees in diameter, in the field of each eye.

The right optic disc was slightly pale in its temporal half. In the left eye, in which the visual disturbance was of longer duration, there was a slight general pallor of the entire optic disc, more marked in its temporal half. The outlines of the discs were well-defined, and the veins were slightly dilated. His vision was better in reduced illumination.

Other Symptoms.—An only brother, aged 30, had never had any visual disturbance, hence family retrobulbar neuritis could be excluded. The patient was not under weight, his general health was good, and he complained of no nervous symptoms. Tobacco, alcohol, lead, diabetes, and syphilis could be excluded as causative factors. There were no nasal symptoms. There was a slight tremor of the face and also of the hands, but the latter was not pronounced enough to affect his writing. There was at times a slight nystagmus in extreme lateral directions of the gaze. The knee-jerks were active, but not decidedly exaggerated.

Course of Disease.—Examinations by a number of physicians revealed no cause for the retrobulbar neuritis, and various forms of treatment having been of no avail, it was decided to abandon treatment altogether, and the patient went abroad to travel. A few months later, his sight improved so that he was able to read, and he then resumed his occupation. No other symptoms of multiple sclerosis have appeared up to the present time, nearly two and a half years since his vision became impaired.

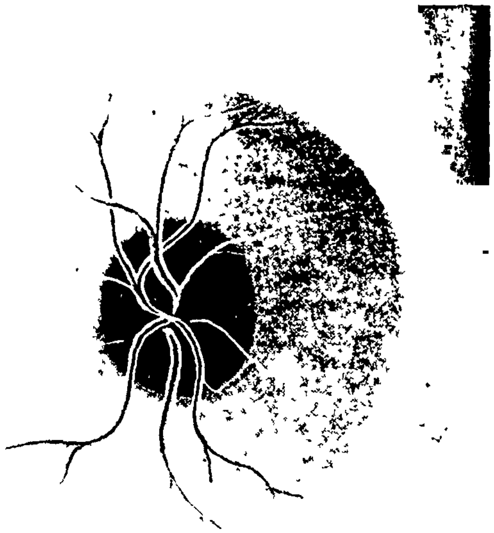

Fig. 7.—Case 4. Concentric contraction of the field for white and for red and also an absolute central scotoma for red. Slight signs of inflammation in the disc and a slight general pallor with more pronounced pallor in the inferior temporal quadrant.

In this case the optic nerve disturbances, both in character and in course, are characteristic of multiple sclerosis, but up to this time, two and a half years after their onset, no corroborating symptoms have developed. Nevertheless, this case seems to me to be one of multiple sclerosis.

D. THE CAUSES OF RETROBULBAR NEURITIS OTHER THAN MULTIPLE SCLEROSIS.

Frank, in Oppenheim's clinic, found that optic-nerve symptoms appeared before other symptoms in 15 per cent. of the cases of multiple sclerosis. Bruns and Stölting found this to be the case in 30 per cent. Marx[2] recently sent for all the patients with retrobulbar neuritis and tobacco-alcohol amblyopia who had been seen in recent years in the Strasburg University eye clinic. Cases of toxic retrobulbar neuritis caused by tobacco, alcohol, lead and the toxemias of pregnancy are diagnosed easily and are placed by themselves. Cases due to syphilis, diabetes and trauma also are diagnosed readily. Among sixteen patients with non-toxic retrobulbar neuritis, whom Marx examined, each at an interval of from three months to seven years after the first observation, six patients were found undoubtedly to have multiple sclerosis, or 38 per cent. In the remaining ten cases he found the most important etiologic factor to be exposure to cold and wet, followed by coryza.

What was the probable cause of the retrobulbar neuritis in these ten cases? It has long been recognized that since the wall of the sphenoidal sinus is, in part, also the wall of the optic foramen, sphenoidal suppuration may lead to blindness. In this country, more than twelve years ago, Dr. C. R. Holmes operated successfully in such a case by opening the ethmoidal and the sphenoidal sinuses and restored the vision of a blind eye. He stated[3] that sphenoidal disease might be the cause in very many instances of obscure cases of retrobulbar neuritis.

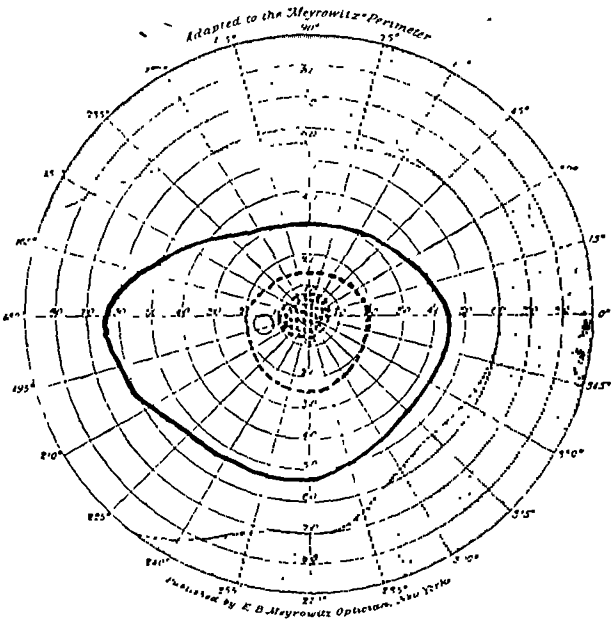

Fig. 8.—Case 4. Concentric contraction of field for white is shown by the heavy unbroken line, and of the field for red, by the broken line. The central dotted area represents the absolute central scotoma for red.

Onodi,[4] working for ten years on the relations between the optic nerve and the accessory cavities of the nose, long ago found that frequently the posterior ethmoidal cells are separated from the optic nerve in the optic foramen by the thinnest possible bony wall, and, furthermore, that the distribution of the blood vessels favors an extension of inflammations from the mucous membrane of the ethmoidal cells to the periosteum of the optic foramen. Thus ethmoidal disease may give rise to an affection of the canalicular portion of the optic nerve, which manifests itself in a central scotoma or perhaps in complete blindness. At first there may be no changes in the disc, or merely inflammatory signs, but later pallor from degeneration of the nerve fibers appears.

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[2] Beitr. z. Progn. d. Neur. retrobulbaris u. d. Intoxicationsamblyopia, Arch. f. Augenh., 1907, lix, 1, p. 28.

[3] Arch. Ophth., 1896.

[4] Der Sehnerv und die Nebenhöhlen der Nase, Hölder, Vienna and Leipsic, 1907.

Dr. W. C. Posey, two years ago, described vascular changes in the optic disc and surrounding retina in cases of ethmoiditis. And Dr. Arnold Knapp has recently reported a case of retrobulbar neuritis with central scotoma in which, by removing a portion of the middle turbinate and draining the ethmoidal cells, the vision was restored to normal. He believes that the common cases of retrobulbar neuritis following influenza are of ethmoidal origin. An illustrative case is the following:

Case 6.—Three months ago I saw a woman, aged 30, who, two years before, had noticed a sudden diminution of vision in the left eye, which passed off in the course of a few weeks. When I first saw her there had been a rather sudden complete loss of sight in the left eye two weeks before, and the eye had no perception of light. The pupillary reaction to light also was lost. Medicinal treatment had not improved her condition. The optic disc was swollen, and the retinal veins were dilated and tortuous.

Examination and Treatment.—In the right eye, acuteness of vision and the field of vision were normal, hence the lesion on the left side lay anterior to the chiasma. Since nothing could be discovered in the orbit to account for the complete blindness, a diagnosis of disturbance in the canalicular portion of the nerve was made. Examination of the nose revealed an abnormal middle turbinate on each side. A portion of the middle turbinate on the left side was removed by a rhinologist, so that drainage of the ethmoidal cells was established, and vision in the periphery of the field at once returned. The large central scotoma gradually became narrower, and three weeks after the operation vision in the left eye was 20/20, with a normal field.

Course of Disease.—A few days later vision in the right eye sank to 20/70, with a central scotoma and normal peripheral limits of the fields. The middle turbinate on this side showed more evidence of disease than the other had shown, and removal of a portion of it was followed by restoration of normal vision in the right eye in a few days.

As stated above, Marx reported sixteen cases of non-toxic retrobulbar neuritis, and six of these patients were found later to have multiple sclerosis. Most of the remaining patients gave each a history of coryza preceding the diminution of vision. Is one not justified, therefore, in assuming that some of these ten cases of retrobulbar neuritis were of ethmoidal or sphenoidal origin?

Non-toxic retrobulbar neuritis has long been a mysterious disease, but it would seem now that a little more study might rob it of much of its mystery and teach us that although syphilis, diabetes, neoplasms, injuries and the like may be causes, non-toxic retrobulbar optic neuritis, in the majority of cases, if it does not mean disease of the accessory sinuses of the nose, means multiple sclerosis.

RECAPITULATION.

Disturbances of vision are found in about half of the cases of multiple sclerosis. Usually the dimness of vision is noticed early in the course of the disease, and it may come on long before any other symptoms have attracted attention.

More than half of the patients with multiple sclerosis who complain of failing sight have central scotoma in the field of vision, and the ophthalmologic diagnosis of their condition is retrobulbar neuritis. Toxic cases of retrobulbar neuritis, due to poisoning with tobacco, alcohol, lead, and the toxins arising in pregnancy are readily recognized and diagnosed as toxic. The causation of non-toxic retrobulbar neuritis, however, has often been obscure. We have learned recently that many of these cases are due to sphenoidal and particularly to ethmoidal disease, which involves the optic nerve in the optic foramen.

In my opinion, we shall soon come to the belief that a non-toxic retrobulbar neuritis, if not due to a sinusitis or directly to syphilis, diabetes, a neoplasm, or trauma is, as a rule, a manifestation of multiple sclerosis, although no other symptoms of the disease may be present.

DISCUSSION.

Dr. D. R. Brower, Chicago: There is probably no disease of the nervous system in which mistakes are so frequently made as in the multiple scleroses. A few years ago there was in the Presbyterian Hospital of this city, a woman at the menopause. She had a coincidence of cerebral and spinal symptoms. She had intention tremor, disturbance of speech, spasticity of lower extremities, slight ataxia, exaggerated reflexes and disturbance of bladder. The physician in charge of the case sent the patient to her home in Iowa with the diagnosis of multiple sclerosis and the usual prognosis. The so-called Christian Science was becoming active in her town. She became interested in it and in a few days was cured. From that day she has been a most ardent propagator of the cult—a case of hysteria mistaken for multiple sclerosis. I do not think that sufficent attention was paid to the eye in this case. The concentric limitation of the field of vision in hysteria is quite different from the central scotomata or irregular contractions of the field of vision in multiple sclerosis. I believe that, if an ophthalmologist had been called in consultation, the error in diagnosis might not have been made. Nystagmus is a valuable eye symptom, especially that form developed by forced movements. Disturbances in the innervation of the muscles of the eye are also valuable aids to diagnosis. The various eye symptoms may take place very early, so that the majority of cases demand the combined action of the two specialties in the beginning to make diagnosis certain.

Dr. Peter Bassoe, Chicago (exhibiting Weigert-Pal specimens of horizontal sections through the optic chiasm of a case, material from which he had received from Dr. J. D. Madison, Milwaukee): I call attention to the great extent of degeneration in the optic nerve, normal fibers being found at the periphery only. The patient died at the age of 24 and had been ill for four years with all the cardinal symptoms and marked optic atrophy.

Clinical Notes

A CASE OF MULTIPLE ARTHRITIS DEFORMANS.

ERNEST H. MUSE, M.D.
ROANOKE, VA.

The following is a rare and interesting case of multiple arthritis deformans. There are few such typical cases of this disease on record, and the marked deformity makes this case doubly interesting, as death usually claims such victims before this advanced stage has been reached.

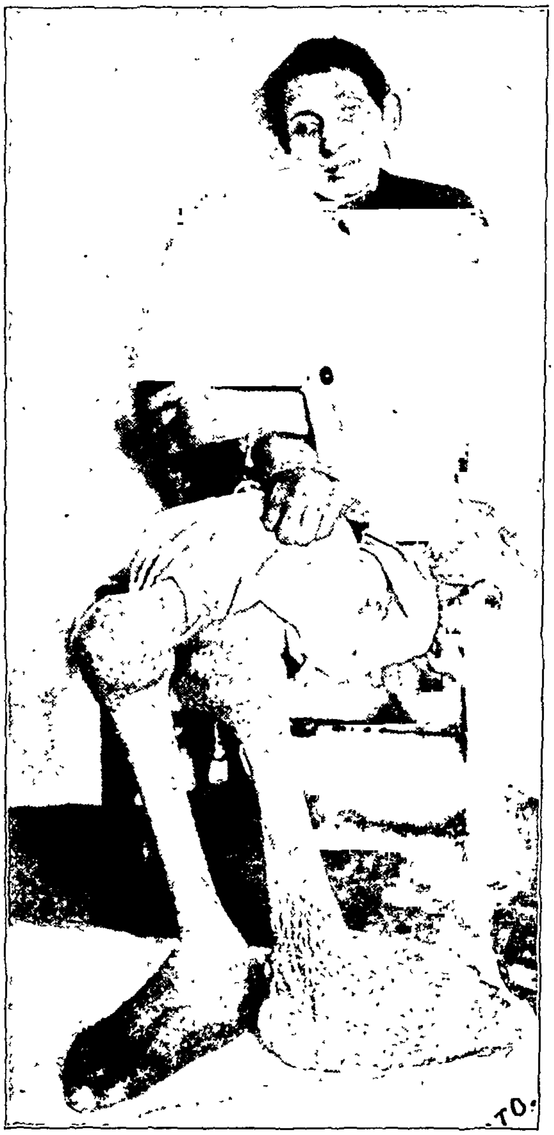
Patient.—A mulatto boy, aged 19. He was born in Botetourt County, Virginia, in 1889; and moved to Roanoke in 1893, where he has since resided.

History.—He went to school in his early childhood, and was apparently in as good health as any boy of his age. During the twelfth and thirteenth years of his life he was delivery boy at a meat stall at the city market, and during these two years he was exposed to a great deal of bad weather. In the fall of his thirteenth year he suffered slight pains in various parts of his body; especially in the joints of the extremities. These pains his physician pronounced of a rheumatic character. They grew worse at times, and then would subside entirely, only to return again at a later date; and on their return they were more severe than during the preceding attack The pains gradually grew worse, and later a thick bloody serum begun to accumulate about the knees, along with a low grade of inflammation. The disease has gradually advanced until the present condition has been reached. About three years ago both of his knees contained an edematous fluid, which pained him considerably. His attending physician aspirated and drew off a quantity of bloody serum. This sufficed to relieve the pain for a short time only; the serum reaccumulating. Another physician was called and he made incisions into the joints, and inserted rubber drainage tubes. Since this the patient has never walked. Contractions of the tendons and muscles soon left him in the condition which he now presents. The knee joints do not seem to be completely ankylosed: but the impaired mobility seems to be due to the contractions of the tendons and muscles, and to the enlargements of the ends of the bones which go to make up these joints. Some two years ago vision in the left eye began to fail, and this gradually grew more marked, until about eight months ago it became totally blind.

Examination.—There is marked ptosis of the left eyelid, which droops so much that it almost covers the pupil. There is only about half normal vision in the right eye. This eye is also gradually growing worse, and will eventually, if the patient lives long enough, become totally blind. The external ocular muscles of the eyes have contracted and caused diverging strabismus. Torticollis has also developed during the progress of the disease, the contraction of the sternocleidomastoid being well-marked. There are well-marked enlargements of the articular ends of the phalangeal bones; atrophy of the muscles, and binding of the skin to the bones between these joints. There are exceptionally well-marked nodules on the left hand. The disease as a whole seems to have affected the left side more than it has the right; especially the eye, hand, knee and foot. The thumb nail on the right hand dropped off about three weeks ago. The thumb nail of the left hand is loosening. The osseous tissue of the elbows and shoulders are enlarged somewhat similar to the condition of the knees, the elbows being much larger than the shoulders. I tried to get a photograph of the naked subject, but he would not submit to it. The muscles between the hips and knees, as well as those between the knees and ankles are much atrophied; in fact they have wasted almost entirely away. The arteries and veins between the hips and ankles are very prominent, and apparently are in their normal condition. The pulsation of the arteries can be felt at almost any point between these joints. Feet: The marked enlargement of the feet is one of the most interesting features of this case. The left foot weighs 12¼ pounds. This enormous weight is principally due to the edematous condition, but the osseous enlargement adds materially. The foot has turned outward and backward to an angle of 78 degrees. The right foot is at about a right angle. Almost all the toe nails on the left foot have come off, and the others are loosening, and will eventually be exfoliated. The splotches on the left foot indicate a dry form of gangrene. The skin is broken in several places, presenting exudating ulcers. The right foot is considerably enlarged, weighing seven pounds. There are no gangrenous or ulcerated areas on this foot, the skin being intact; but there is considerable edema. The nail on the great toe of this foot has been shed, and the others are loosening.

Other Points of Interest.—There are several interesting peculiarities about this case which are well worth emphasizing. At the time of the beginning of this disease this boy was very much darker than the average negro, in fact he was almost black. The pigmentation has made some mysterious disappearance, and he is now almost white, with the exception of about half of the right foot. His hair, before the disease started, had the characteristic nappy appearance which so distinctly marks his race. Now it is straight and black, and resembles greatly the hair of the Indian. The viscera seem to be very little affected. The heart has a very rapid, quick pulsation, the rate per minute reaching 120 on first count and 115 on second. I could not locate any valvular lesions. The lungs are in good condition. The patient breathes freely while in a quiet attitude, but on exerting himself in talking over a considerable length of time he will take a long deep breath, and show other signs of fatigue. He has a good appetite, eating almost anything put on the family table, and assimilating his food as well as could be expected under such sedentary conditions. He keeps his bed most of the time, but gets up once or twice during the day and sits in a chair, but he has to have assistance in getting in and out of bed.

The functions of the liver and kidneys are well preserved, the bowels moving regularly, without the aid of drugs. The urine is normal in quality and quantity, and is passed with ease and painlessly.



The patient has been treated by eight or ten of the best physicians of the city prior to coming under my care, which was about four months ago. There is practically nothing that can be done for him in his present condition that I know of in the way of a curative treatment. I am meeting the symptoms as they arise and relieving them as best I can. The principal treatment that he is getting at present is an occasional anodyne to relieve pain, which is principally in his left foot, and the syrup of iodid of iron as a systemic tonic. He seems to be holding on with remarkable tenacity under this treatment, there being but very little change in his condition since I first saw him.

A BODY ELEVATOR AND SUPPORT FOR OPERATIONS ON THE ABDOMEN AND TRUNK.

GEORGE W. HAWLEY, M.D.
SEATTLE, WASH.

As operative surgery has extended its attack on one organ after another within the body, and operative procedures have become more pretentious and finished, there has arisen the necessity for exposing the various operative fields to better advantage.

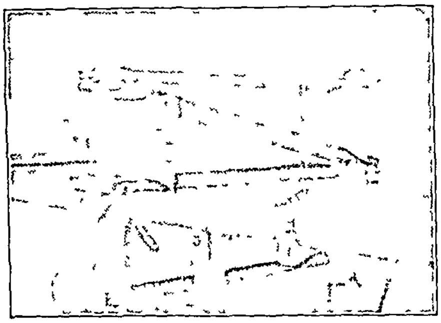


Figure 1

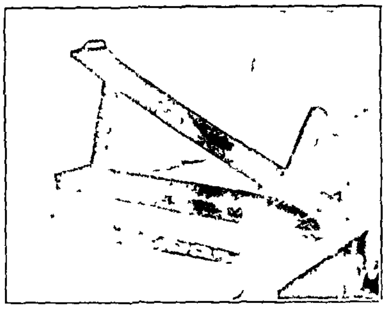


Figure 2.

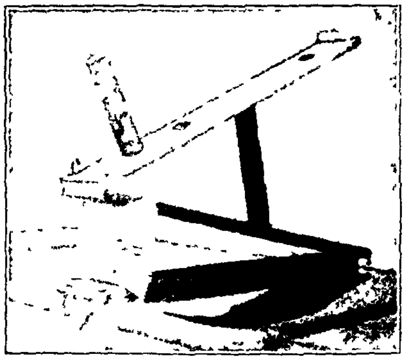


Figure 3.

Fig 1—Showing elevation of both ends of the bar equally, as obtained by the Lilienthal elevator. Used to raise the upper abdomen in operations on the gall bladder, stomach etc, to support the lumbar region in operations on the kidneys and to raise the hips in applying abdominal binder, hip spica, and cleansing the patient after operation. Small sand bags are shown bracing the ends

Fig 2—Shows elevation of one end only (right) with pin in opposite end to prevent the patient from sliding. Pads can be placed over the pin to soften the pressure

Fig 3—Unequal elevation of both ends with pin in the down side. This is about the position and elevation obtained with Cunningham's kidney table

To obtain exposure of any operative field it is customary and natural to raise and support different parts of the body in order that the different structures to be treated may be brought to prominent view and adjacent interfering ones induced to recede out of the way. The time-honored sandbag has long been used for this purpose, but a few substitutes have been taking its place, notably, Edebohl's air cushion, Cunningham's kidney support, and the Lilienthal body elevator attachment on the new Baldwin, Lilienthal, and Markoe operating tables.

Many difficulties are often found in lifting and bracing a patient's limp body on the operating table. Sandbags and cushions frequently fail to maintain the position desired and patients often roll or slip out of position. Cushions, as well as all stationary supports, require attendants to raise the patient while being put in place and provide no ready means of changing the degree of elevation when once in place. The Lilienthal body elevator is a great improvement in many respects, in that the patient's body can be raised or lowered at will without touching the patient, and the position obtained is secure. Its only disadvantages are that it is usually made a stationary part of a table and can not be moved from one part of a table to another or fitted to other tables. Also, it provides only for horizontal elevation.

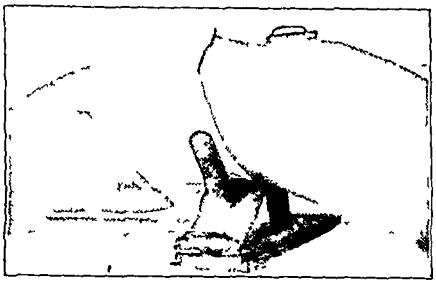


Fig 4.—Elevation of the right side showing exposure and slant of the abdomen. In this position the intestines gravitate to the left side, and the right half of the abdomen is brought up into excellent position for the surgeon as he stands at the left of the table.

Herewith is presented a simple contrivance which can be attached to any operating table and to any part of it. By it elevation of the body from the hips to the shoulders can be obtained, of one side only, of one side more than the other, or both sides equally. As with Lilienthal's elevator, elevation is produced by a thin flat bar placed transversely across the table. By raising and supporting one end of the bar, elevation of the right or left side of a patient's body can be had. By lifting both ends of the bar equally, or one more than the other, both sides are elevated alike, or one more than the other.

The elevation of one side of the body more than the other introduces positions which possess features distinctly advantageous, though but little used and difficult to obtain. In operations on one kidney this has been recognized. In abdominal operations raising one side of the body induces the intestines to gravitate away from that side, in the same way that the Trendelenburg posture induces gravitation away from the pelvis, and the Hartley position away from the upper abdomen. Ordinarily, with the patient flat on the table the operator is required to stoop over the table in order to see the structures directly beneath his incision. For this reason he usually stands on that side of the patient in which he is to make his incision. If, however, he stands on one side of the patient and elevates the opposite side the surface of the abdomen is inclined in the same manner in which one holds a book, the opposite half of the abdomen is brought toward him and into prominent view, the deeper parts are tilted and come into more direct line with his vision, and the necessity and danger of suspending his head over the wound is lessened.

The apparatus here pictured consists of three strips of stout oak three-eighths of an inch thick by four inches wide, with beveled edges and joined by two strong hinges, as shown in the accompanying cuts. The top strip or bar is supplied with a handle at each end, to facilitate lifting the patient. The lower bar is made fast to the table by strong linen straps which pass beneath it. When the ends of the bar are raised they are held in place by sandbags of different sizes or solid supports. A wooden pin pressed firmly into holes at either end of the upper bar prevents the patient from sliding when one end is raised above the other.

The contrivance here described is only a crude model. One made of three strips of rigid metal with polished surface and disjointable hinges would be more suitable. It would be simple to supply the ends with one of the common forms of rachet with or without crank to raise and brace the ends, but the simpler any apparatus the better, and sandbags or braces which fit into notches are sufficient for all purposes.

In using this body elevator it is first securely fastened to the table and placed at the desired level. After the patient is on the table and anesthetized it is seen that his body lies on the elevator at the point to be raised. One or both ends are then lifted by the handles to the proper height and braced. Both ends can be elevated simultaneously by two attendants, or one side at a time by one person. After the patient is raised pillows are tucked under the body in order to distribute the weight and relieve the pressure of the bar. The degree of elevation can be altered at any time by raising one or both ends, and the field can be changed by lowering the bar and patient flat on the table, moving the patient, and again raising the support.

At first sight this elevator may seem to have several bad features. It might appear difficult to securely fasten it to the table. On the contrary, it is practically immovable. It has a tendency to topple over, but only when the attempt is made to pull the patient up or down on the table very far, after the support has been raised. From the photograph one might suppose that the end of the elevating bar might be in the way of the operator or assistant in certain positions. It has not proved so.

Phlebitis and Embolism After Laparotomies.—F. Jayle reports four cases of embolism in patients without the least edema whose convalescence was apparently progressing favorably. They succumbed suddenly the third, fifth, sixth and fourteenth days respectively. In each case the heart was fat and flabby, the venous system hypertrophied, the arterial tension low. Jayle's impression is that extreme dread of the operation predisposes to postoperative phlebitis, as also sluggish bowel functioning. When a patient comes to him from South America or from the French colonies—great meat eating countries—he insists on a preliminary course of treatment of the digestive organs for several days or weeks before attempting an operation. The lesions most frequently followed by phlebitis are fibromas, especially those in the ligaments which press on the veins in the pelvis. The dorsal decubitus also favors phlebitis. He advocates operating on the predisposed in a position approximating the upright and on a very low table. The phlebitis made no sign in the fatal cases reported. When there are distinct symptoms of phlebitis he always feels reassured, as he has never known a case of fatal embolism with well-developed phlegmasia, and others report the same experience. The blood pressure should not be allowed to fall after the operation, and the patient should be allowed to sit up early. His communication is published in the bulletin of the Internes Society, Paris, April, 1908.

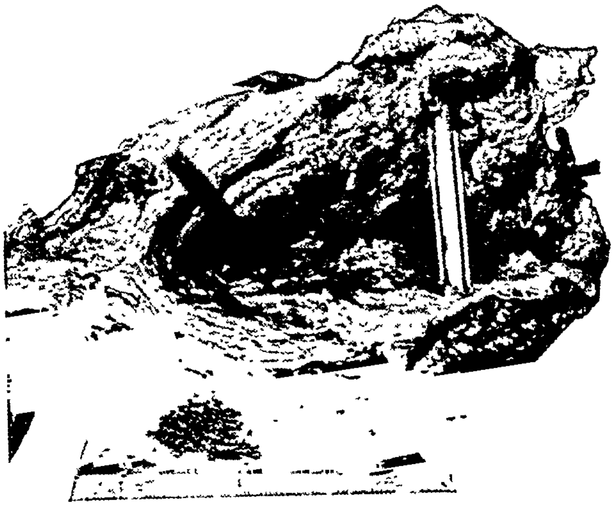
ABSCESS OF UTERUS; HYSTERECTOMY; RECOVERY.

GASTON TORRANCE, M.D.
Surgeon to St. Vincent's and The Hillman Hospitals.
BIRMINGHAM, ALA.

Salva Mersade[1] reports 41 cases of uterine abscess. Of these 22 were from puerperal infection; gonorrhea was the next most frequent cause; five cases were of tuberculous origin. He advises that laparotomy be done in all cases instead of attempting to open the abscess through the vagina. When the abscess is well isolated and the patient young, incising, curetting the cavity and drainage may be practiced. Total hysterectomy will probably be indicated in a majority of cases.

The following is the history of my case which was operated on four years ago:

History.—Mrs. R., age 31, of German parentage; family history negative; menstruation began at 13 years of age, was always regular and normal. She was married at 25; her first child was born fourteen months later; she had a normal labor, but has not been well since then; has had pain in back and in both ovarian regions, with considerable leucorrhea. Another pregnancy occurred two years later. This was also practically a normal labor, but since then her suffering has been very much greater, and she has scarcely been able to attend to household duties.



Abscess of uterus. A probe is passed through the uterine canal and a glass rod is placed transversely in the mouth of the abscess cavity.

Examination.—Vaginal examination shows a retroverted uterus, bound down by strong adhesions, considerable enlargement of both tubes, more marked on the right side; the pain has been much more severe on this side. Very tender on palpation.

Operation.—Under ether a median incision was made and the appendix and right tube and ovary were removed, the adhesions were broken up and what I supposed to be a deep-seated fibroid was found on the fundus, about half way between the right tubal junction and the mid-line. An incision was made to remove the supposed fibroid and opened up an abscess down in the uterine wall, containing about half an ounce of thin yellowish pus, probably of gonorrheal origin. Unfortunately this was thrown out without being examined bacteriologically. I did a supra-vaginal hysterectomy, closing the abdomen without drainage. She made an uncomplicated recovery, and left the hospital in two weeks, and is now in perfect health.

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[1] Les Absces d l'Uterus, Ann. de Gyn. et d'Obst., January, 1907; also, Surg. Gyn. and Obst., iv, p. 381.

AN EXTRAORDINARY CASE OF HYDROCEPHALUS.

MILLARD KNOWLTON, M.D.
TERRE HAUTE, IND

The following case is of interest because of the unusual size of the head. I first saw the patient about nine months ago and again April 23, 1908, while visiting near Kokomo, Ind

History—The patient a female child was born July 24, 1906, and weighed five pounds at birth It was the first child of its parents The mother and father both come of large and healthy families The mother was slender weighed about 114 pounds, and was 19 years old when the child was born The birth was natural, though the mother stated that she was in labor two days and one night The mother first noticed that the baby's head was somewhat large when it was about two months old, but others had noticed that it was not exactly normal at birth The head has steadily and rapidly increased in size

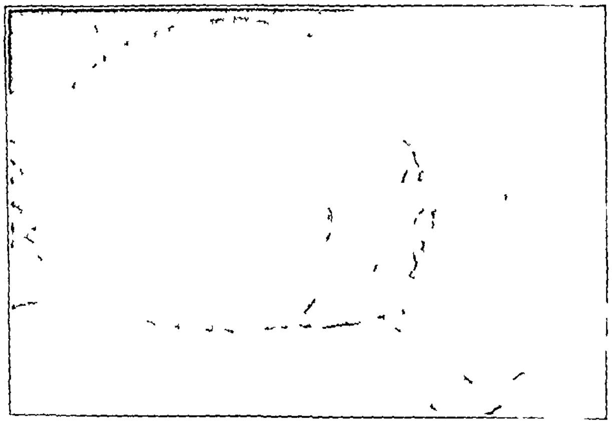

Fig 1—Case of hydrocephalus showing the distended veins elevated eyebrows and clenched fists

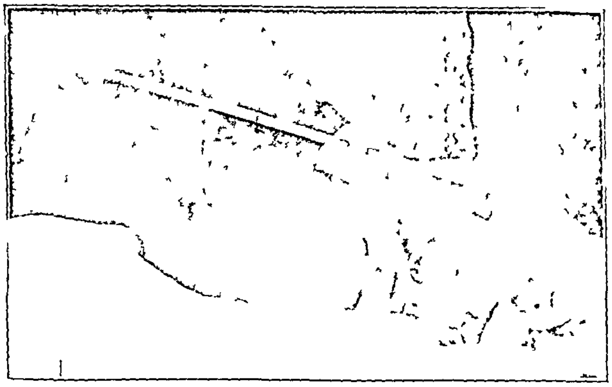

Fig 2—Tape measure held over patient's head to give an idea of proportionate size

Examination—The head measured forty inches in circumference and twenty nine inches from ear to ear over the crown Distance from bridge of nose to edge of hair, eight inches Pulse 140, respirations 40 There were tonic contractions of the muscles giving rise to clenched fists, drawn limbs, etc The mother claimed that this condition had prevailed during the entire life of the child There were thirteen teeth erupted and the mouth apparently was sore There was considerable deformity of the thorax, the anteroposterior diameter being greatly increased There was little if any mentality

The mother of the child has recently (about May 1) given birth to another child, which seems normal in every respect.

LICHEN PLANUS ANNULARIS.

JEROME KINGSBURY, M.D.
NEW YORK.

This case was presented at a clinical session of the Sixth International Dermatological Congress held at the Academy of Medicine, New York, Sept. 12, 1907.

Patient—L S, aged 9, schoolgirl, was born in this country, but of Russian parentage She is anemic and poorly developed Her mother states that the child's health has always been good but that she is extremely nervous and is easily fatigued

Family History—Father has had psoriasis for the past fifteen years and now presents typical lesions. Otherwise the family history seems negative

History of Eruption—The first lesion was noticed on the right arm eight weeks ago It was then about an inch in diameter and at first was thought by the mother to be a ring worm Soon other lesions appeared on the forearms and a little later on the chest, abdomen and legs There is said to have been but little pruritus at any time

Description of Eruption—The annular lesions vary in diameter from half an inch to an inch and a half. The smaller ones are hard and present a firm border with central depression The larger ones are on the arms and abdomen and in places show a fine grayish scaling There are numerous discrete papules on the forearms and trunk These have all the characteristics of the early lesions of lichen planus White patches are to be found on the oral and vaginal mucosa.

Lesion in case of lichen planus annularis

The accompanying illustration gives a good idea of the distribution of the eruption, but fails to show the dermatologic beauty of the individual lesions.

39 West Thirty Ninth Street

Position of Head in Anesthesia—Alexander Blain, of Detroit, in the *New York Medical Journal*, May 9, states that the idea that the patient's head should be lowered is erroneous As a rule, he asserts, the patient's head should be raised on a pillow This is contrary to the teaching of most text books, but patients invariably do better by this method

Therapeutics

Jalap

Jalap is the dried, tuberous root of a climbing vine which grows on the eastern slope of the Mexican Andes and is also cultivated in India. It is named after Jalapa or Xalapa, a city of Mexico. It has a slight smoky odor, and a sweetish and mildly acrid taste. The root yields about 8 per cent of a resin which consists of jalapin and a glucoside, convolvulin or jalapurgin.

The purgative action of jalap seems to be induced by the action of the bile; hence it begins its activity in the duodenum. It causes congestion of the mucous membrane of the intestines, probably increases the secretion of the intestinal glands, peristalsis is increased and profuse, watery discharges are the result. There is often pain, and sometimes griping and vomiting. It seems to be less of an irritant than gamboge, podophyllum or scammony, but excessive doses will produce continuous purging. It causes a movement of the bowels in from three to four hours. It does not cause congestion of the pelvic organs or of the rectum, and is perhaps the mildest of the resinous cathartics. As it can not be detected in the urine it is probably not absorbed, and as it is difficult to detect it in the stools, it is evident that it is partly or completely oxidized.

Jalap is a very useful cathartic, especially when it is desired to cause absorption of effusions. It is especially indicated for this purpose in ascites and in general anasarca, whether from cardiac insufficiency, renal disease or cirrhosis of the liver. It is also indicated when the brain is to be relieved of a too high blood pressure, or when there is congestion of the brain, in meningitis. It is valuable in hypertension and is especially useful when there is venous engorgement from failure of the heart in dilatation in valvular disease, or in failure of the right side of the heart from emphysema. When any of these indications are to be met by the use of jalap it should be remembered that the intake of liquids should be restricted, that the profuse watery discharges may so deplete the blood as to cause it to resorb the water that it finds in the tissues or exudates in cases of dropsy, and in cases of venous engorgement from cardiac insufficiency, that it may relieve the heart of excess of fluid so that the hypostatic congestion may be relieved.

Jalap is also often the drug selected to increase the excretion of toxins by the intestines in renal insufficiency and when uremia is present or impending. In this instanese, if dropsy is not present, considerable water may perhaps be taken to aid the dilution of the toxins in the blood and to promote the excretion by the skin as well as to increase the watery evacuations by the intestines. In other words, jalap, in three or four hours produces watery stools, causing considerable excretion of toxins from the blood, does not cause much irritation of the intestines and if the dose is not too frequent, causes but little prostration. Its taste is not unpleasant, and, therefore, it rarely disturbs the stomach, and for this reason is often selected as a purgative in connection with anthelmintics when such are needed to remove intestinal worms in children.

The preparation of jalap most frequently used is

PULVIS JALAPÆ COMPOSITUS, U. S. P., the compound powder of jalap, which contains 35 per cent of jalap and 65 per cent of potassium bitartrate (cream of tartar). The adult dose is 2 grams (30 grains). This may be repeated in five hours if there are no results. When necessary, this preparation may be given every morning for several days without causing prostration or intestinal irritation.

RESINA JALAPÆ, U. S. P., the resin of jalap, occurs in yellowish brown masses or fragments the fresh fracture appearing glossy and semitranslucent at the edges. When pulverized it is a yellowish gray or yellowish brown powder. It has a slight smoky odor and a somewhat acrid taste. The dose is 0.10 gram (2 grains). This preparation is an ingredient of the compound cathartic pill and of the vegetable cathartic pill, each of which contains 0.02 gram of this resin.

The National Formulary recognizes three preparations of jalap, viz.:

FLUIDEXTRACTUM JALAPÆ, dose 1 c.c., or 15 minims.

TINCTURA JALAPÆ (20 grams of jalap in 100 c.c.), dose 5 c.c. (1 fluidram, a teaspoonful).

TINCTURA JALAPÆ COMPOSITA contains in each 4 c.c. (1 fluidram) 0.50 gram (7½ grains) of jalap and 0.13 gram (2 grains) of scammony. The dose is a teaspoonful.

These tinctures or alcoholic extracts of jalap do not quite represent the whole activities of the drug, as part of the activities are extracted only by water. The alcoholic extracts are said to be more griping than the aqueous extracts.

℞

	gm		
Pulveris jalapæ compositi	10	or	ʒiiss

Fac chartulas 5.

Sig.: One powder, with water, and repeated in five hours, if needed.

Or

℞

	gm		
Pulveris jalapæ compositi	5	or	gr. lxxv
Hydrargyri chloridi mitis	1		gr. xv

M. et fac chartulas 5.

Sig.: One powder, with water, and repeated in five hours, if needed.

Or

℞

	gm		
Pulveris jalapæ compositi	10	or	ʒiiss
Potassii et sodii tartratis	50		℥ii

M. et fac chartulas 10.

Sig.: A powder, with water, daily, before breakfast.

Pulmonary Hemorrhage

The question of the proper treatment of this condition or emergency constantly recurs and it seems to be necessary to reiterate the advice that the blood pressure should not be raised by such drugs as ergot, digitalis, etc., with the idea of stopping the bleeding. All hemorrhage from the lungs unless it is from an aneurism, tends to stop, but the proper treatment for the condition is to lower the blood pressure with nitrites.

At a recent meeting of the American Therapeutic Society in Philadelphia (May 7-9, 1908), Dr. Lawrence F. Flick, Philadelphia, stated in a paper which he read on the treatment of tuberculosis that whenever he found a pulmonary second sound accentuated or increased in force he put the patient immediately on nitroglycerin, and in this way he believed he minimized the danger and frequency of hemorrhages.

Dr. Albert P. Francine, in the *Pennsylvania Medical Journal*, January, 1908, very ably discusses the treatment of hemoptysis. He uses the official spiritus glycerylis nitratis in one minim doses immediately on the occurrence of pulmonary hemorrhage, and repeats the dose at two hour intervals, or oftener in severe cases, and in severe hemorrhage has given a minim (two drops) every half hour for four or five doses. If the hemorrhage is alarming and the patient is nervous he administers ¼ grain of morphin with 1/150 grain of atropin, hypodermatically. It is often advisable to use morphin to quiet the patient's nervousness in pulmonary hemorrhage, but ⅛ grain, or one half the above, is almost invariably sufficient. If this small dose is administered atropin is then not needed to stimulate the respiratory center or to prevent the overaction of the morphin, and as it is a vasoconstrictor, it is best not to administer it.

Francine lays down the usual rules for the immediate treatment of this condition, viz., absolute rest flat on the back with one or two pillows as the patient prefers. Talking must be forbidden. No warm drinks, alcoholic or otherwise, are allowed, and no solid food is permitted. Cracked ice in small amounts may be given to dissolve in the mouth, and perhaps a light weight flat icebag may be put over the heart to quiet its overaction. Similar icebags may be placed over the site of the bleeding if deemed advisable. Strapping the chest on the affected side and limiting its mobility is sometimes of service, and Francine speaks of the occasional necessity of bandaging the extremities so as to retain the blood in them until the hemorrhage ceases. If this is done the bandages should be loosened gradually and not all at once, so that too much blood will not be thrown into the lungs at one time.

It is probably rarely advisable in pulmonary hemorrhage to do transfusion with blood, salt solution, or any other solution, or even to do hypodermoclysis.

Francine thinks that after the arrest of the hemorrhage the patient should be kept in bed at least ten days. This, of course, depends on the amount of the hemorrhage and its cause.

Francine advises the usual treatment to prevent hemorrhage, viz., the administration of calcium chlorid or lactate, and the feeding of gelatin, as a jelly. He cautions against using large doses of calcium chlorid too long, as it tends, in large doses, to interfere with the coagulation of the blood. This caution was concurred in by Dr. Meyer Solis-Cohen, of Philadelphia, in discussing Francine's paper; he stated that Dr. A. E. Wright, of London, has shown that when large doses of calcium chlorid are given for some period, the coagulation of the blood is interfered with. Therefore, after two or three days of the ordinary dose of calcium chlorid, it is well to suspend its administration.

℞.	gm. or c.c.		
Calcii chloridi	5		gr. lxv
Acaciæ granulatæ	15	or	ʒiii
Aquæ cinnamomi	100		℥iii

M. et Sig.: A teaspoonful, in plenty of water, every three hours.

Calcium chlorid, in spite of the mucilage, is irritant to the stomach and sooner or later causes considerable irritation, consequently the following tasteless preparation is the better:

℞.	gm.		
Calcii lactatis	6	or	ʒiss

Fac chartulas 20.

Sig.: One powder, with water, every three hours.

Colocynth.

Colocynthis, U. S. P. (genitive, colocynthidis), is the peeled, dried fruit of a climbing vine which grows in the Eastern Hemisphere. It is also called bitter apple, or bitter cucumber, as the fruit resembles a small orange or gourd. The part of the fruit used for medicinal preparations is the pulp, the seeds of the fruit being discarded. The pulp contains about 0.6 per cent. of an amorphous glucoside, colocynthin, which is the active principle. The taste of colocynth is bitter, and its active principle is soluble in water and alcohol.

In small doses it increases the flow of saliva, and may act as a stomachic, but in larger doses it is irritant to mucous membranes and may cause vomiting. It increases the intestinal secretions and stimulates peristalsis, causing copious watery movements, and if the dose is large it causes severe colic. A large dose may cause gastroenteritis, with bloody stools, and by its irritation may indirectly cause abortion, as may the other irritant cathartics. It may act as an hepatic stimulant, and has been said to have slight diuretic action, showing that some of it may be absorbed.

This drug is rarely prescribed alone on account of its irritant properties, it being better to use a small dose of it combined with other cathartics than a large dose. Colocynth in such small doses has long been used in habitual obstinate constipation, and perhaps most frequently as the compound extract. It should be avoided in all conditions of gastrointestinal inflammation, peritoneal inflammations, and in pregnancy.

There is probably no real good reason for the administration of colocynth. As previously stated in this discussion of cathartic drugs, when an active purge is needed drugs other than the drastic cathartics are better and safer. In chronic constipation even small doses of the irritant cathartics tend to make the condition worse; they are certainly not curative. If vegetable cathartics are desired to produce large watery stools, jalap or elaterium are the best drugs to use.

The dose of colocynth is 0.065 gram (1 grain).

The official preparations are:

Extractum Colocynthidis, extract of colocynth. Dose, 0.03 gram (½ grain).

Extractum Colocynthidis Compositum, compound extract of colocynth. This is composed of 16 per cent. of extract of colocynth, 50 per cent. of purified aloes, 6 per cent. of cardamom, 14 per cent. of resin of scammony and 14 per cent. of soap. The dose is 0.50 gram (7½ grains). This preparation is an ingredient of the compound cathartic pill, and of the compound vegetable pill. Colocynth is also an ingredient of several National Formulary pills.

Cardiospasm.

This is a name applied to a spasmodic contraction of the cardiac extremity of the stomach, and is, perhaps, a more frequently undiagnosed condition than has been thought.

Dr. Charles A. Wingerter, of Wheeling, W. Va., in the *West Virginia Medical Journal*, December, 1907, describes this condition. It occurs in "two forms: as a transitory paroxysmal affection lasting a few hours or even a couple of days, or as a chronic condition which may extend over a number of years." The acute cramp is short and painful, and is difficult to diagnose. The chronic type of cardiospasm is a more serious affection, as it interferes with the general nutrition of the patient and soon makes him an invalid.

Wingerter lays stress on the order of the symptoms as diagnostic, viz., early spasmodic pain, later regurgitation, and still later, retention of food a greater length of time after the meal before the regurgitation takes place. The pain comes on suddenly, and often radiates to the back or neck. In the intervals the patient is apparently well. After some weeks this spasm of the cardia causes a dilatation of the lower end of the esophagus. From this time on the pain, distress and regurgitation are more or less continuous, and emaciation begins. Soft food may still pass through the narrowed cardia, and if enough liquid and soft food is taken, the nutrition may keep fairly good and the regurgitation from the diverticulum may even become less frequent. The reaction of this regurgitated food is always alkaline, it is not acid, showing that it did not come from the stomach.

The cause of cardiospasm may be an ulceration, a new growth, hyperchlorhydria, or hyperesthesia of the mucous membrane at the cardia. This, of course, may occur with neurasthenic and hysterical patients, but is probably often present when patients are considered neurasthenic and may be the cause of the neurasthenia. It occurs in both sexes and at any age.

In the treatment of this condition, of course, if possible all local irritation must be removed, as gastritis or hyperchlorhydria. Some patients have the spasm of this muscle as a neurosis, especially when certain articles of food are eaten, particularly when by some previous experience they have found that such and such a food was followed by this sudden pain and perhaps regurgitation. Such patients need suggestive treatment, as, if the patient can be made not to expect the attack, almost any food may be taken without harm. A spasm being present, morphin or codein will stop it. Antipyrin has been recommended, and some patients do well with bromids. In its primary stage, no tangible cause being found, the patient should be treated as a neurotic. This means institution of any rest cure, change of climate, massage, hydrotherapy or psychopathic treatment deemed advisable.

When the cardiospasm can not be relieved by any of these means and the condition has become chronic, operative dilatation of the cardia must be done, either by esophageal dilators or by opening into the stomach and dilating from below.

An article on this subject, with a report of forty cases, will shortly appear in The Journal.

Iritis.

Dr. Aaron Brav, Philadelphia, (*New York Medical Journal*, Feb. 22, 1908), carefully describes the treatment of this frequent inflammation of the eye. He says that it is a disease of long duration, requiring from six to twelve weeks to effect a cure, a short duration depending entirely on the prompt application of therapeutic measures. The disease is subject to "remissions, exacerbations and recurrences, and in no other ocular disease is the clinician confronted with so many problems on the prompt solution of which depends the ultimate success of the treatment." The recognized causes of iritis are "syphilis, rheumatism, tuberculosis, scrofulosis, malaria, anemia and the infectious fevers."

Dr. C. Higgins, London, senior consulting ophthalmic surgeon, Guy's Hospital (*The Lancet*, April 25, 1908) states that iritis is frequently due to the poison of gonorrhea, although the original infection may have occurred many years before. He thinks this is very frequent in men; perhaps rare in women. The results of this gonorrheal iritis include all the serious consequences to the eye to which iritis is prone.

Brav considers the treatment of iritis under the following headings:

1 To give complete rest to the inflamed organ until all the inflammatory signs have subsided.

2. To relieve pain so as to enable the patient to sleep well and allow Nature's recuperative powers to exert their influence.

3. To prevent, so far as possible, any serious sequelæ, such as the formation of posterior synechiæ."

He says that as a routine practice, eye lotions are not needed, and that irritating eye washes are positively contraindicated. Both eyes should have absolute rest from use, even if but one is affected. Smoked glasses should be used, so that the patient may not be confined to a dark room, although during the acute stage the patient should be in bed and bright light prevented from entering the room. When the pain subsides the patient is better out of bed and in the open air. The diet should be mild and non-stimulating, as in any other acute inflammation, and at the beginning of treatment a good purgative, best perhaps calomel, should be given. Brav gives magnesium sulphate every morning, to be repeated in the evening, if necessary, as:

℞.	gm. or c c.		
Magnesii sulphatis	50		℥ii
Syrupi limonis	50	or	fl℥ii
Aquæ	ad 150		ad fl℥vi

M. et Sig.: A tablespoonful, in half a glass of water, before breakfast.

The most important drug in the treatment of iritis is atropin, which should be used in sufficient doses to produce its full physiologic effect on the pupil. When used in the eye it rarely produces poisoning in the adult, but in children should be used with care. Brav uses a 1 per cent. solution, as:

℞.	c c.		
Atropinæ sulphatis	10	or	gr iss
Aquæ destillatæ	10		flʒiiss

M. et Sig.: One drop in the affected eye every hour until the pupil is dilated; then one drop every eight hours.

[All strong preparations of atropin or similar drugs should be labeled "poison."]

In children a 0 5 per cent. or 0 25 per cent. solution should be used, as deemed advisable, but when atropin causes unpleasant symptoms Brav suggests the following:

℞.	c c.		
Duboisinæ sulphatis	035	or	gr ½
Aquæ destillatæ	10		flʒiiss

M. et Sig.: One drop instilled into the affected eye every eight hours. Or:

℞.	c.c		
Scopolaminæ hydrobromidi	015	or	gr ¼
Aquæ destillatæ	8		flʒii

M. et Sig.: One drop instilled into the affected eye, three times daily.

If undesirable symptoms from the action of atropin occur, such as very uncomfortable drying of the throat, palpitation, flushing of the face, and cerebral excitation, then the stronger atropins must be discarded and homatropin used.

℞.	c c		
Homatropinæ hydrobromidi	40	or	gr vi
Aquæ destillatæ	10		flʒiiss

M et Sig.: One drop in the affected eye every hour.

[If both eyes are inflamed, the strength of the above preparations, in order for a drop to be used in each eye, must be reduced.]

During the course of the inflammation the tension of the eye must be carefully watched lest glaucoma develop, though a temporary increase in intraocular pressure is often seen. As soon as the eye shows increased tension, Brav thoroughly evacuates the bowels, gives absolute rest, and stops the atropin. If the tension does not then in a few hours decrease he uses escrin, as:

℞.	c c.		
Physostigminæ sulphatis	03	or	gr. ½
Aquæ destillatæ	8		flʒii

M. et Sig.: One drop in the affected eye every hour.

Brav says that it is not often necessary to have recourse to this treatment, and it is rarely necessary to employ surgery to prevent glaucoma from iritis.

The value of atropin in iritis is to dilate the pupil and thus to prevent posterior synechiæ. It also contracts the iris, thus reducing congestion, and paralyzes the ciliary muscles, thus giving the iris absolute rest.

If the pain from the inflammation is not stopped by the atropin, hot moist compresses, frequently changed, should be employed. Poultices are not needed. If the pain persists in spite of such treatment, leeches should be applied, one or two to the temporal region, care being taken to avoid the large blood vessels. If in spite of such treatment the deep seated pain in the orbit continues, so as to prevent sleep, morphin must be used, and best hypodermatically.

If the iritis is due to rheumatism, salicylates are advisable, and Brav recommends the following:

℞.	gm. or c.c.		
Sodii salicylatis	15		
Potassii iodidi	15	or	āā, ℥ss
Syrupi sarsaparillæ compositi	100		fl℥iii

M. et Sig.: A teaspoonful, with plenty of water, every four hours.

Brav finds suprarenal solutions useless, and perhaps harmful.

Cocain may be combined with atropin at times, as:

℞.	c c.		
Cocainæ hydrochloridi	03		
Atropinæ sulphatis	03	or	āā, gr ss
Aquæ destillatæ	8		flʒii

M. et Sig: One drop instilled into the affected eye, every three or four hours, if necessary.

The treatment of hypopyon or posterior synechia is a subject for a specialist.

As it is stated that at least 50 per cent of iritis is caused by syphilis and that mostly in the secondary stage, constitutional treatment during such iritis is that of the syphilis, and mercury is the important drug. Brav thinks it is best administered in the form of an ointment, and advises the rubbing on of 4 grams (1 dram) of the unguentum hydrargyri into the skin twice daily, choosing different parts of the body at each application. If symptoms of mercurialism occur, of course the drug should be temporarily stopped, and during its administration alkaline mouth washes should be used.

When the inflammatory symptoms are declining Brav finds potassium iodid of value in promoting the absorption of the inflammatory products. Syphilis having been the cause of the iritis, of course it must be long treated else the iritis may recur, as well as other symptoms of syphilis.

If rheumatism is the cause of the iritis he would not only give salicylates, as intimated above, but during the height of the disease he would give large doses, as a gram of sodium salicylate (15 grains) every four hours, during the daytime.

After the iritis has subsided, especially after antisyphilitic or antirheumatic treatment, the patient generally needs iron

Dr. Higgins, in the article above referred to, says that the treatment of gonorrheal iritis is most unsatisfactory. Mydriatics (atropins) irritate, and rise of tension in the eye is of frequent occurrence; consequently they must be used with caution. He believes in hot fomentations to the eye, and in the value of leeches, and he also sounds a note of warning against the use of suprarenal solutions and cocain. The first effect of their action is satisfactory, but the after-effects are harmful.

For Warts.

℞.	gm or c.c.		
Acidi salicyli	1		gr. xv
Liquoris formaldehydi	1	or	m. xv
Petrolati albi	15		℥ss

M. et Sig.: Rub into the part affected twice daily.

For Hemorrhoids.

℞.	gm.		
Extracti belladonnæ fol	1		
Extracti opii	1		āā, gr xv
Antipyrinæ	3	or	gr. xlv
Cerati plumbi subacetatis	10		ʒiiss
Unguenti	30		℥i

M. et Sig.: Use externally as directed.

—*New York Medical Journal*, July 6, 1907.

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SNAKE POISONING IN THE UNITED STATES.

Under the above heading is compiled by Dr. Prentiss Willson a valuable summary of a topic which should be familiar to every practicing physician.[1] There are few localities in the United States in which poisonous reptiles may not be found, at least occasionally, and still more widely spread are harmless snakes that are popularly believed to be deadly. The same instinct which causes almost every man impetuously to ruin his trout rod or midiron on any innocent little reptile that strays across his path causes every mother of a snake-bitten child to believe that all snakes are deadly, and every physician is liable to be called on to determine whether or not a certain snake is poisonous. He should know, therefore, that besides the rattlesnakes there are but three species of poisonous snakes in the United States, and all are easily recognized. One, the coral snake, has but a narrow range of distribution in the southern part of the country and is distinguished by its brilliant markings; the other two, the water moccasin and the copperhead, are characterized like the rattlesnake by the presence of a deep pit between the eye and the nostril and by undivided ventral scales on the tail. All the other snakes in this country are harmless, and for the most part useful members of society, destroying insects, field mice and other pests, and entirely undeserving of the ignorant persecution they suffer on account of their wicked relatives. If this fact were universally appreciated by physicians much unnecessary anxiety and undesirable therapeutics would be spared.

Willson has collected from the literature and from private sources 740 cases of poisoning by snake bites in the United States, and his studies make it very apparent that we need more careful clinical reports of cases of snake poisoning than are at present to be found in the literature. Thorough autopsies are especially needed, there being but four recorded and these so incomplete as to be nearly worthless. Of 566 bites in which the species of snake was known there were 408 cases of rattlesnake bite, 97 cases of copperhead bite, 53 cases of water moccasin bite, and 8 cases of coral snake bite.

Credit for the earliest studies of the nature of snake venoms comes to America, the pioneers having been Bonaparte, Weir Mitchell and Reichert, and much of the more recent work of importance has been produced in this country. Snake venoms are remarkably complex poisons, differing in different species of reptiles, among the ingredients having been found fibrin ferment and antiferment, proteolytic enzymes, cytotoxins for red corpuscles, leucocytes, endothelial cells, and, especially important, the neurotoxins. The venoms of our poisonous American snakes are characterized by producing very severe local effects at the point of injection, and hemorrhages throughout the body, while they affect the central nervous system much less than the venom of such snakes as the cobra. For equal doses the water moccasin and copperhead venoms are more toxic than rattlesnake venom, but the large size attained by some species of rattlesnakes makes them much more likely to inject a fatal dose than the smaller copperheads. Of the 740 cases collected by Willson, 78, or 10.5 per cent., were fatal, and in these statistics the water moccasin seems to be especially deadly, being surpassed in this respect only by the largest species of rattlesnakes.

It seems possible that, in some localities, the treatment of snake bite is more dangerous than the disease. Uncleanly local treatment of the wound, when the resistance of the tissues is greatly lowered by the venom, favors septic infection, while alcohol poisoning is often enough more serious than the snake poisoning. Nothing could be more irrational and dangerous than the popular notion concerning the antagonism of whisky and snake bites, and Willson reports that several of the fatalities in his series were directly due to alcohol rather than to the bite. In one case a boy of 3 years was given over a pint of whisky! Careful local treatment of the wound, directed toward lessening absorption and avoiding infection, together with logical symptomatic treatment, offer the best hope in these cases; and raising the weakened blood pressure by adrenalin, saline infusion and abdominal compression is a valuable procedure. The outlook for antitoxin therapy does not seem to be promising, for, in the first place, it is doubtful if the morbidity and mortality from snake bite in the United States will ever warrant the commercial production of antisera specific for rattlesnake and moccasin venom, which is a far more difficult task than the preparation of serum for cobra venom.

Such a thorough analysis of the subject of snake poisoning in the United States as is provided in the article quoted above has long been needed, for general information on this topic is decidedly meager and strongly tainted with local traditions and superstitions. We recommend its careful study by all physicians practicing in snake-infested communities.

SPECIAL TRAINING FOR ATTENDANTS IN INSTITUTIONS FOR THE INSANE.

A novel and interesting educational experiment is to be inaugurated this summer by the Chicago School of Civics and Philanthropy. Under the leadership of Miss

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[1] Archives of Internal Medicine, June, 1908, p. 516.

Julia Lathrop, for many years a member of the Illinois State Board of Charities, and now director in this school, a summer course has been arranged for attendants in institutions for the insane and mentally defective. The course has been planned with skill and originality, the object being to show the educational value of occupation, and to afford practical training in those handicrafts which are familiar in kindergartens and manual training schools. In addition, lectures are offered on the elements of psychology, pedagogy and psychiatry and on sociologic subjects. Thus the attendant is to be given training which will fit him to undertake new and important duties in the care of the insane, making of him a teacher and not merely a custodian.

It is true that occupations of various kinds have already been introduced into many institutions, and in some there are even teachers of manual training. But these advantages are offered only to the better class of patients, and the larger number—many of whom need occupation, although they are incapable of learning a handicraft—remain unprovided for. We are all familiar with the discouraging aspects of the typical insane ward, the rows of cleanly dressed patients seated in absolute idleness for hours together, their attendants satisfied with supplying their bodily needs and making no effort to rouse and stimulate them, or with the no less discouraging "restless ward," where so long as the patients give no serious trouble they are left quite without direction for their activities. The Chicago school aims to fit attendants to teach occupations suited to all grades of patients, from simple, childish games to skilled handicrafts. Many a patient just emerging from the depressive stage, many restless patients who for lack of occupation become "dangerous," may be greatly helped by judiciously planned work, and, just as in the education of children games are recognized as of great value, so in the re-education of retrograded minds games can be used to bring back the capacity for muscular coordination, for self-control and cooperation with one's fellows.

The promoters of this novel scheme state that they offer the course to attendants rather than to nurses because the attendants are the constant companions of the patients and all efforts to educate the latter must succeed or fail according to the attitude of the attendants. It has been repeatedly pointed out by all who are familiar with the workings of asylums for the insane that the crux of the situation is the character of the attendant.[1] The sporadic efforts at reform instituted at moments of public indignation over some scandal leave little permanent result so long as they fail to strike at the root of the matter—the personnel of the attendants. In all asylums for the insane the complaint is made that it is so difficult to get a good class of attendants, and yet very little is done to train and improve the material which is at hand. The life of an attendant in an insane asylum is strenuous, joyless and singularly isolated. Such an institution is usually a little world in itself, and the ideas and changing views of the outer world are slow in penetrating. Routine rules supreme, with all its warping and deadening influence. The standards of the attendant are satisfied when a certain modicum of physical well-being is provided for his patients, but the real purpose of the asylum—the re-education and rehabilitation of diseased minds—does not cross his horizon.

The proposed summer school in Chicago represents the first effort of this kind to transform the asylum attendant into an intelligent teacher and to substitute educational for purely custodial care. It is to be hoped that the school will achieve its purpose and that it will inaugurate a new system of training for those in charge of the insane in other states as well as Illinois.

REGISTRATION OF VITAL STATISTICS IN PENNSYLVANIA.

The first "Annual Report of the Commissioner of Health of Pennsylvania," which has just appeared—we do not know why it is so belated—covers the work done by the Department of Health of that state from June 6, 1905, to Dec. 31, 1906, and represents the results of the application of recent legislation to the hygienic affairs of a great state. One of the first advances made is the addition of a number of communicable diseases to the list of those usually required. This innovation has been very successful. One of the most notable advances is the registration of vital statistics. Previous to the enactment of the law of May 1, 1905, the collection of vital statistics in Pennsylvania was in a very unsatisfactory condition. The working of the new law has enabled the state to be included in the registration area of the United States Bureau of the Census. The law is an excellent one and has been used as a guide by the Committee on Medical Legislation of the American Medical Association in drafting the model law recommended for adoption by states lacking an adequate vital statistics act. The essence of the Pennsylvania law is that the work of collecting, reporting and registering vital statistics shall be done by paid officers of the state, who shall be under the control of the state board of health. The keynote of the Pennsylvania administration is compulsory obedience of the reasonable requirements of the law and infliction of the penalties of the law in cases of its violation.

One sad feature revealed by the statistics is the increase in suicides and especially in suicides of children. The rapid increase of homicides also calls for investigation and explanation. The birth statistics indicate a slight reduction in the birth rate. The shortening of the child-bearing period by late marriages due to the entrance of women into gainful occupations, is held in part responsible for this situation.

A matter of great importance in which Pennsylvania is taking advanced ground is the prevention of the pollution of streams by municipal or private action. The need of such action is only too apparent. The law makes ample provision for regulation by the board of health of the state, but in many cases a strict enforcement of the provisions of the statute would work great hardship to communities already burdened with debt to the limit, and hence unable to make the necessary alterations to prevent pollution of the stream into which their sewage is emptied. In such cases the commissioner has been considerate and has endeavored to coöperate with municipal authorities, and reasonable delay is allowed. Extensions of the sewerage system must, however, be made in compliance with plans contemplating treatment works for the purification of sewage in the future.

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[1] Beers: The Mind that Found Itself.

Much dependence is placed on education of the public in furthering the work of the state sanitary authorities. This is applied with regard to communicable diseases, disinfection, water protection, sewage disposal, the antituberculosis movement and other matters within the sphere of public sanitation. The report, as a whole, indicates a new era in home and public sanitation for Pennsylvania, which, it is hoped, other states will follow.

VACATIONS AND HEALTH.

Vacations are taken mainly with the idea of improving health, yet it often happens that people return to their homes suffering from some form of ill health due to lack of care, and frequently they need additional rest after their return. Vacations during hot weather are especially likely to be followed by unfortunate consequences, for often they have to be taken in unusual surroundings, the sleeping quarters may be more cramped than at home, the food may be unusual and may be eaten irregularly, and the exposure to the sun with unaccustomed exercise may create a condition of lowered vitality which heightens the danger from toxic substances from food, so much more likely to spoil in hot weather, and from infectious bacteria, which grow so much more luxuriantly at high temperatures. In a word, there are so many dangers that the weeks of intermission from a busy occupation may prove anything but the re-creation it is hoped to be and may instead have at least annoying consequences. This is as likely to be true for physicians as for their patients, and there are certain warnings that need to be emphasized at this time.

The old Romans succeeded in conquering the world as much by their ability to maintain the health of their troops in their various campaigns as by the courage and organization of their soldiery. Some of the maxims of their army regulations would be worth keeping before the mind of the vacation tourist who wanders far from home and into unusual conditions during the summer. One of the principal of these was: "In the land of the enemy beware of the water and certain times of the day that the inhabitants of the country deem dangerous." Another was: "Avoid countries with swamps which are sources of diseases, and deserts and mountains without trees." A third that is especially applicable at this time of the year was: "The soldier must not be without protective shelter. A man must guard against the rays of the sun, and begin the day's work very early." These wise old Romans realized just what were the special dangers of people traveling far from home. These were the water, certain times of the day, the heat of the sun, and swampy ground. We are likely to think that the ideas behind these maxims are much more modern. If tourists would take them to heart there would be much less aftermath of disease following vacations.

It was especially exposure to the heat and the sunlight that the Romans insisted on as most enervating. There is probably nothing that lowers resistive vitality and lays one open to the influence of disease like exhausting exposure to the sun. In recent years so much has been said of the benefit of sunlight that we sometimes forget that, like every other good thing in excess, it may be intensely harmful. Exposure to the sun is likely to be especially baneful if its effects are not neutralized by longer hours than usual of restful sleep. It is this especially that travelers are likely to miss. Most people do not sleep so well away from home as at home. Often the feeling that one is losing the precious hours of vacation is allowed to shorten the time spent in bed. For the very young this policy may not prove harmful, though it must not be forgotten that it is among them that we most frequently see the sad results of vacations supposed to be taken for health improvement. Among the middle aged, however, there is no doubt that unless taken with some of the Roman maxims in mind, vacations may well prove more harmful than beneficial.

EXPLOITING THE TUBERCULOUS.

The latest scheme for utilizing the physician as a decoy in a "hold-up game," in which wealthy tuberculous patients or their friends play the part of the unwilling, and apparently unconscious, victims, hails from Arizona. Located at Tucson, Ariz., there is a stock corporation which rejoices in the euphonious, if somewhat enigmatic, name of "The Southwestern Extraforaneous Company." Now extraforaneous—which is classed by the Standard Dictionary as a "rare" word—means "situated outside the door"; in other words, out-of-doors. The name, in brief, is that of a sanitarium for the tuberculous. As the circular says, to "attract moneyed consumptives" it is desirable to have physicians as agents and to secure their services "it is necessary that they be stockholders of the company." But—and here is the kernel of the nut—in addition to receiving dividends as stockholders, each "agent physician receives a liberal commission based on the receipts from the patients sent by him." "Agent physician," by the way, is a good term—one tending to promote a feeling of self-respect! The great advantage to be derived from this system of secret commissions is the fact that the "agent physician will also be careful to send only those patients who are wealthy . . . as otherwise he would reduce his commissions and dividend on his stock." But the dividends, apparently, are but an incident—the drawing card is the commission; for the circular points out that "in view of the fact that we pay a liberal commission based on the receipts from the patients sent us, we feel that our agents should not look too much to dividends." As the company is capitalized at $1,000,000 this suggestion to the stockholders is possibly to forestall disappointment. The pamphlet referred to is entitled "Physician's Edition." As in it the statement is made that "in the successful treatment of consumptives the patient must be kept in a . . . contented state," it is assumed that the descriptive circulars sent to prospective patients do not include a copy of the "Physician's Edition." It would hardly be conducive to "a contented state" for even the wealthiest of consumptives to know that a certain percentage of the money he was paying for board and lodging at the Southwestern Extraforaneous Company's sanitarium was surreptitiously being forwarded to his family physician in the form of commissions.

EXAMINATION OF THE DIASTASE FERMENTS AND THE VALUE OF THE COUNCIL'S WORK.

The report of an examination by the Council on Pharmacy and Chemistry of various diastase ferments, which appears[1] in this issue, calls attention to a fact too often overlooked or forgotten. We refer to the great value to physicians of an impartial examining body for determining the efficiency of the various therapeutic agencies offered them by manufacturers. There was a time when the medical profession had to get its scientific reports on the physiologic or chemical value of a proprietary product from the respective makers of such products. That in such reports, coming even from firms of the highest standing, the personal equation was likely to play an undue part was, in the nature of the case, unavoidable. It is to be expected that manufacturers marketing a preparation will naturally apply such tests for determining its value as will place their products in the most favorable light. That time is past; the medical profession is to be congratulated on having, in the Council on Pharmacy and Chemistry, a body under whose direction the various preparations put on the market may be examined scientifically and without commercial bias. Probably no class of medicinal agents has received so much commercial exploitation as that comprising the digestive ferments; and of this class the diastasic products have been the favorite. As to the questionable need or value of the digestive ferments in general this examination has nothing to do. Only this fact is considered: Do the starch converters really do the amount of work claimed for them? The examination shows that "the digestive values are all lower than claimed." Particularly was this found to be true in the case of Taka Diastase, a product which has probably been more extensively advertised than any similar preparation that was ever offered to physicians. In its liquid form this digestant was found to lose strength very rapidly, and, whatever may be its converting power when sent from the factory, after being on the druggists' shelves for a short time it becomes practically inert. The solid preparation, also, was "far from satisfactory." The examination, in short, simply confirms the statement so often iterated and reiterated in these columns: Accept with large mental reservations the claims made by manufacturers for the various products in which they hold proprietorship.

Medical News

DISTRICT OF COLUMBIA.

Must Stamp Oleomargarin.—Secretary of Agriculture Wilson has made a ruling in which he declares the regulations recently promulgated, to become effective July 1, requiring the stamp of government inspection on oleomargarin, shall stand as made. This decision upholds the contention of the dairy interests in their controversy with the oleomargarin manufacturers.

To Prevent Escape of Patients.—The board of charities has forwarded a communication to the commissioners favoring more stringent rules governing the establishment and maintenance of private hospitals and asylums in the District in order to prevent the escape of patients from such institutions while under treatment. Reference is made to several fatalities due to the negligence of attendants.

Personal.—Dickinson College has conferred the degree of LL.D. on Dr. Hugh M. Smith, deputy commissioner of fisheries.——Dr. Joseph Tabor Johnson has been elected president of the Washington Country Club.——Dr. P. G. Smith has been appointed superintendent, and Dr. J. M. Pearson resident physician, of the new tuberculosis hospital recently erected at Georgia Avenue N. W. at a cost of $100,000.

Health Report.—According to the health and mortality record for the week ended June 20, there were 116 deaths and 116 births in the District. Of the deaths, 70 were white and 46 colored. Of the births, 82 were white and 34 colored. The excessive heat resulted in doubling the infant mortality as compared with the previous week. The number of diphtheria cases was increased, there being 11 under treatment. Ten new cases of typhoid brought the list up to 79, and 8 new cases of measles and 9 chickenpox were reported.

ILLINOIS.

Smallpox.—There have been three additional cases of smallpox discovered at the Rock Island County farm, but none of the patients is seriously ill.

Society Organized.—The physicians of LaSalle and Peru, on June 23 met and organized the Twin City Medical Society, a branch of the LaSalle County Medical Society. The following officers were elected: President, Dr. B. J. Nauman, Peru, and secretary, Dr. Frederick A. Guthrie, LaSalle.

Personal.—Dr. S. Walter Ransom has been appointed associate professor of anatomy in the Northwestern University Medical School, Chicago.——Dr. Don A. Vanderhoof has returned from Vienna and located with Dr. Horace M. Starkey in Rockford.——Dr. James A. Rutledge, Elgin, has been made a member of the board of directors of Modern Woodmen of America.

Chicago.

Election.—At the annual meeting of the South Side Medical Society, June 19, Dr. Edwin B. Tuteur was elected president and Dr. F. Gurney Stubbs secretary.

Personal.—Drs. Alfred D. Kohn and Alexander L. Blackwood have been appointed members of the board of education. ——Dr. John B. Murphy and family leave for Europe July 12.

Unlicensed Practitioners Fined.—Mrs. L. Brunswick, Mrs. F. Kantz, Hanna K. Blomberg and H. H. Hill, charged with practicing medicine without licenses, are said to have been found guilty and fined $100 and costs each. None of the defendants appeared in court.

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[1] Pharmacology Department, p. 140.

New Dispensary.—The Northwestern University Medical School is about to erect a dispensary on property on Calumet Avenue, north of Mercy Hospital, which was acquired by Dr. John B. Murphy for the institution and was conveyed by him to the university, June 26, for a consideration of $7,801.

Hospital News.—Jackson Park Sanitarium was opened for the season June 27. Addresses were made by Dr. W. Augustus Evans, commissioner of health, Dr. Alfred C. Cotton, superintendent of the sanitarium, and others.——The twenty-second season of the Daily News Fresh Air Fund Sanitarium, Lincoln Park, began June 29.——Iroquois Memorial Emergency Station No. 1 is to be opened at 87 Market Street by the Iroquois Memorial Association. The association is prepared to spend $25,000 in equipping the building, and it will be provided with everything deemed necessary. The first floor is to be an ambulance station: the second a dispensary. and on the third floor will be the operating room and beds for patients.

Danger from Flies.—The weekly bulletin warns that the common house fly should be kept out of homes and away from food. and the chances of avoiding diarrheal disturbances and typhoid fever this summer will be much better. All cases of typhoid fever and most cases of diarrheal disease are due to infection. The infection is present in human discharges; from these discharges it is conveyed into the mouths of others in several ways; but the common house fly is the commonest and most mischievous of all carriers. The greatest prevalence of the diarrheal diseases corresponds with the greatest prevalence of flies. Most typhoid infections also occur at this time. Flies may also be the conveyors of scarlet fever. diphtheria, tuberculosis and other infectious diseases. They walk over or feast on the infectious matter in a sick room and then go to a neighboring home and find their way to the food of other persons.

INDIANA.

Personal.—Dr. Charles C. Terry and family. South Bend, sailed for the Mediterranean June 20.——Dr. Charles K. Bruner. Greenfield. has been appointed local surgeon for the T. H., I. & E. Railway.——Dr. and Mrs. Xene Smith. Huntington, have returned from abroad.——Dr. E. Oscar Lindermuth, Indianapolis. is said to be ill with smallpox in the isolation hospital.

State Society Meeting.—At the fifty-ninth annual meeting of the Indiana State Medical Association. held in French Lick Springs, June 18 and 19. the following officers were elected: President, Dr. George D. Kahlo, French Lick; vice-presidents, Drs. Edward D. Freeman, Osgood: Charles H. McCully, Logansport, and Charles Chittick, Frankfort; secretary, Dr. Frederic C. Heath. Indianapolis (re-elected); treasurer, Dr. Albert E. Bulson, Jr.. Fort Wayne. and delegates to the American Medical Association, Drs. William N. Wishard, Indianapolis; Edwin Walker, Evansville: Harry C. Sharp, Jeffersonville, and George W. Thompson, Winamac.

MARYLAND.

Baltimore.

Quarantine Raised.—The quarantine of the smallpox suspects at Poplar Heights, in the suburbs of Baltimore, has been raised.

Woods Club.—The members of the medical staff of the University Hospital have formed an out-of-door recreation club to be known as the "Woods Club." The requirement for membership is a "sincere love for the out of doors and old clothes."

New Infectious Diseases Hospital Ready.—It is announced that the new hospital for infectious diseases is completed and ready for occupancy. It is a simple one-story building. with large porches at either end. There are two wards for white and two for colored patients, accommodating thirty-two in all. There are four rooms for private cases. The building is on the ground of the City Almshouse.

Vital Statistics for June.—During the month there were 266 deaths of children under 5 years of age, 32.6 per cent. There were 86 deaths from intestinal diseases in children under 2 years of age. The total number of deaths was 816, and there were 735 births. Eighty persons were bitten by dogs; there were 20 fatal accidents; 11 persons attempted suicide, 2 were successful.

Personal.—Dr. James H. Bay, of the house staff of University Hospital, was operated on for appendicitis, June 27.——Dr. Daniel Z. Dunoth will spend the summer at White Sulphur Springs Va.——Dr. Leonard M. C. Parker has gone to Europe.——Dr. L. McLane Tiffany is at Magnolia. Mass.——Dr. H. Barton. Jr.. will spend the rest of the summer at Newport.——Dr. Ira Remsen is at Prout's Neck. Maine.——Drs. Charles O'Donovan and G. Milton Linthicum have recently been added to the faculty of Baltimore Medical College.

New Buildings for Baltimore Medical College.—The Baltimore Medical College will shortly erect a large library and laboratory building on ground purchased last year. There are to be three lecture halls. with a seating capacity of 200 each. also chemical. physiologic, pathologic and physical laboratories and lecture and library rooms for the Baltimore law school. which will be affiliated with the college. The building will be of brick. four stories high. and will cost about $50.000. The members of the building committee are: Profs. G. Milton Linthicum. William E. Moseley, James M. H. Rowland and Samuel K. Merrick.

MASSACHUSETTS.

Hospital Acquires Property.—The Massachusetts General Hospital has acquired 595 square feet of land adjoining the hospital grounds.

Commencement.—At the annual commencement of Harvard Medical School. a class of 64 was graduated. and 12 members of the class received the degree of M.D. *cum laude*. The honorary degree of D.Sc., was conferred on Col. William C. Gorgas. Medical Corps. U. S. Army.

Medical Student Drowned.—The body of Reginald Sears James, a senior student in Harvard Medical School. who mysteriously disappeared several days before. was found in the Charles River May 27, and it is believed that while suffering from melancholia caused by worry over his studies. he committed suicide.

Floating Hospital.—The first trip of the Boston Floating Hospital was made July 1. The boat will make daily trips. including Sundays. up to September 15. During last season the total number of patients on all trips was 2.639, and there were 366 permanent patients. who stayed in the hospital an average of 70 days each.

Communicable Diseases.—There is said to be a great increase in typhoid fever in Fitchburg. where nine cases have been reported recently.——The Board of Health. Worcester, has traced the origin of thirteen cases of diphtheria to the distribution of milk by one dealer in Quinsigamond.——Diphtheria is reported still to be prevalent in Ware.

Reception to Revision Committee.—On May 23. the New England Branch of the American Pharmaceutical Association and the Boston Association of Retail Druggists tendered a reception to the revision committee of the U. S. Pharmacopeia. at which a number of prominent physicians of Boston were present as guests. Mention was made at this dinner of the great friendliness now existing between the professions of medicine and pharmacy.

Tuberculosis Camps.—The open-air camp provided by the Springfield Society for the Prevention of Tuberculosis is now arranged and in readiness for the care of patients.——Ground has been broken for the tuberculosis camp in Cambridge. for which an appropriation of $20.000 was recently made. The building will be one story in height. with two wings. each 25x50 feet, and the front will be made almost entirely of glass. Primarily this institution will be a day camp. in which patients will be instructed in hygiene and will receive other treatment. Later it is planned to build a hospital for the care of contagious diseases.

MICHIGAN.

Communicable Diseases.—There is said to be an epidemic of diphtheria of mild type in Holland.——At East Fremont there are said to be 10 or 12 cases of smallpox of mild type.

Degrees Conferred.—The University of Michigan. at its recent commencement, June 18, conferred the degree of M.A. on Dr. Walter Courtney. Brainerd. Minn., chief surgeon of the Northern Pacific Railroad; the degree of D.Sc. on Dr. Franklin P. Mall of Johns Hopkins University. and the degree of D.Sc.. on Dr. William J. Mayo, Rochester. Minn. All thus honored were members of the medical class of 1883.

Personal.—Dr. Oscar C. Breitenbach. Escanaba. was elected president of the Lake Michigan Water Commission, May 27.——Dr. H. F. Thomas, surgeon, and J. N. Holcomb. assistant surgeon of the Soldiers' Home, Grand Rapids, have resigned.——Dr. Felix J. Przybylowski has succeeded Dr. Zigismund L.

Kadlubowski as city physician of Detroit.——Dr. James C. Johnson, city physician of Adrian, has resigned.——At the May meeting of the Gratiot County Medical Association, Dr. Stiles Kennedy, St. Louis, was the guest of honor, and was presented with a silver loving-cup, suitably inscribed.

MISSOURI.

Personal.—Dr. William C. Goodwin, Odessa, the oldest practitioner of Lafayette County, was the guest of honor at the May meeting of the Lafayette County Medical Society.——Dr. Herman E. Pearse, Kansas City, has sailed from Montreal for Europe.——Dr. Oscar M. Long, Harrisburg, who is alleged to have shot and seriously wounded a clergyman, December 16, after an altercation relative to the local option campaign, is said to have been found guilty at Columbia, June 23, and fined $100 and costs.

State Society Meeting.—At the fifty-first annual meeting of the Missouri State Medical Association, held in Springfield May 19-21, the following officers were elected: Dr. Alonzo R. Kieffer, St. Louis, president; Drs. Dexter B. Farnsworth, Springfield; William J. Frick, Kansas City; Joseph B. Norman, California; Charles H. Dixon, Holliday, and Marshall A. Smith, Gallatin, vice-presidents; Dr. Andrew W. McAlester, Jr., Kansas City, secretary, and Dr. J. Franklin Welch, Salisbury, treasurer. Dr. Robert H. Goodier, Hannibal, was elected orator on medicine, and Dr. Frank J. Lutz, St. Louis, orator on surgery. Dr. Elisha E. Gilmore, Adrian, was selected as chairman of the medical section; Dr. Franklin E. Murphy, Kansas City, vice-chairman, and Dr. William R. Patterson, Tipton, secretary; Dr. Paul Y. Tupper, St. Louis, chairman of the surgical section, and Dr. Willard Bartlett, St. Louis, secretary. A committee composed of Drs. Thompson, Kansas City, Tipton McLemore, Nevada, and Mitchell C. Shelton, Joplin, was appointed to organize an eye, ear and throat section of the association.

NEW YORK.

Personal.—Dr. Robert F. Sheehan, Buffalo, has been appointed a food inspector of the department of health.——Dr. De Witt Green, Buffalo, has resigned as district physician of the department of health.

University of Buffalo Acquires Property.—An arrangement has recently been effected by means of which the University of Buffalo has acquired from Erie County, New York, one hundred and four acres of land to be used for university purposes. The tract is splendidly located at the summit of the limestone ridge at the northern edge of the city, adjacent to the Country Club. The Medical Department of the University of Buffalo was founded in 1846, and three other professional schools have been organized since that time. The need for an academic department has long been felt and its organization now seems in a fair way to be accomplished. The land here mentioned will be devoted to that purpose.

NORTH CAROLINA.

State Board of Examiners Elected.—The following were elected by the state society as the board of medical examiners of the State of North Carolina for six years: Drs. James L. Nicholson, Richlands; Henry H. Dodson, Greensboro; Lewis B. McBrayer, Asheville; William W. Mackenzie, Salisbury; Benjamin K. Hays, Oxford; John C. Rodman, Washington, and John Bynum, Winston-Salem.

State Society Meeting.—At the fifty-fifth annual meeting of the Medical Society of the State of North Carolina, held in Winston-Salem June 16-18, the following officers were elected: President, Dr. Jacob F. Highsmith, Fayetteville, and vice-presidents, Drs. Chalmers M. Poole, Salisbury, and Daniel A. Dees, Bayboro. The society passed a resolution advising the board of examiners to revoke the license of any practicing physician who is found violating the prohibition law by promiscuously writing prescriptions for whisky. This is the result of the petition presented by the ministerial association of several towns of the state.

PENNSYLVANIA.

Bequest.—The will of the late John B. Roach bequeaths $5,000 in trust to the Chester Hospital.

Cocain Sellers Sentenced.—Eugene Fairfax and Lizzie Acy, colored, who were arrested by the city police of Harrisburg as the ring leaders in the cocain traffic, were fined and sentenced to six months in jail June 15.

Free Antitoxin.—According to a report of State Health Commissioner Dr. Dixon, from October, 1905, to December, 1907, the state distributed antitoxin for the treatment of 8,833 cases of diphtheria. Of this number, 7,926 patients were saved, only 807 cases resulting fatally. In addition, the state furnished antitoxin to immunize 6,184 persons. Of these, all but 53 were protected against the disease, and of the 53 who did contract the disease only 5 succumbed. The total cost of the antitoxin supplied these 15,017 persons was $40,826.25.

Philadelphia.

Commencement.—The annual commencement exercises of the University of Pennsylvania Department of Medicine were held June 19. The annual address to the graduating class was delivered by Dr. Edgar Smith, vice-provost of the university. A class of 143 was graduated.

Public Baths Opened.—On account of the excessive heat during the past week, the city's public baths were opened June 24. One new bath has been added, making a total of 19. The baths will remain open daily from 5 a. m. to 9 p. m., except Sunday, when they will close at 9 a. m.

Health Report.—The total number of deaths reported for the week ended June 27 was 500, including 274 males and 226 females, an increase of 97 over the previous week and of 51 over the corresponding week of last year. The principal causes of death were: Typhoid fever, 6; measles, 8; pertussis, 6; consumption, 53; cancer, 33; apoplexy, 15; heart disease, 33; acute respiratory disease, 37; enteritis, 63; hepatic cirrhosis, 5; appendicitis, 2; Bright's disease, 31; premature birth, 14; congenital debility, 13; suicide, 4; accidents, 15, and marasmus, 21. There were 115 cases of contagious diseases reported, with 9 deaths, as compared with 139 cases and 16 deaths in the preceding week.

Drop in Typhoid.—The lowest typhoid fever record since 1897 was reached during the first week of June. Only 25 cases were reported in that period, and this is the smallest number reported in any week in the history of the health department. Dr. A. C. Abbott, chief, stated that the reported cases in any one week since February 22 has not reached 100, and since May 16 the number has been below 50. In previous years the early spring weekly average was from 200 to 350 new cases. From January, 1908, to the present time there has been a decrease in typhoid fever of 66 per cent. as compared with the same period of last year. The extension of the filtered water area, it is believed, has influenced this decrease, but the number of cases in the unfiltered districts also shows a proportionate decrease.

Personal.—Dr. G. Oram Ring has returned from Mexico.——Dr. Morris B. Miller sailed for Europe June 12.——Dr. Ward Brinton had the degree of M.A. conferred on him by Washington and Jefferson College at the annual commencement exercises June 16.——Drs. Wharton Sinkler, Horatio C. Wood, John Marshall, Benjamin F. Stahl, William S. Wadsworth and Roland G. Curtin were elected to the board of directors of the general alumni association of the University of Pennsylvania, Department of Medicine, at the annual meeting June 16.——Dr. John M. Swan has been appointed secretary for the United States of the Section in Tropical Medicine of the fifth Pan-American Medical Congress.——Drs. Peter N. K. Schwenk, David G. Metheny, Thomas S. K. Morton, Morris Longstreth and Elwood Matlack have sailed for Europe.——Dr. William L. Rodman has resigned the chair of surgery in the Woman's Medical College of Pennsylvania, the resignation to take effect at once.

WASHINGTON.

Garbage Collection.—Seattle has appropriated $65,000 for furnishing a garbage collection and incinerating system to take the place of the personal collection of garbage by private individuals.

Communicable Diseases.—A case of smallpox is reported on board the U. S. steamship *Kentucky* at Bremerton.—At Prosser ten families are quarantined on account of smallpox.——A large number of cases of diphtheria is reported at Rock Cut and in Stevens County. For a time it was confined to Indians, but is now spreading among the white settlers.

Milk Statistics to Be Published.—The daily newspapers of Seattle will be furnished with full data relative to dairies disposing of milk in the city, the product of which falls below standard of the ordinance. A list will also be published of the establishments maintaining a high standard so that the public may have information on this most important subject.

Alleged Illegal Practitioner Discharged.—In the case of Mrs. Linda B. Hazard, Seattle, charged with practicing medicine without a license, the charge being based on the fact that Mrs. Hazard displayed a sign, "Doctor," on her door contrary to the statute governing and defining physicians and surgeons, the court held that section of the statute to be invalid, as it infringes on the personal liberties of the individual. There was no evidence that Mrs. Hazard wrote prescriptions or practiced medicine.

GENERAL.

Medical Examiners Meet.—At the ninth annual meeting of the American Association of Medical Examiners, Dr. Frank E. Allard, Boston, was elected president; Drs. Liston H. Montgomery, Chicago; William J. Means, Columbus, Ohio, and E. Olin Kinne, Syracuse, N. Y., vice-presidents, and J. C. Moynihan, New York City, secretary-treasurer (re-elected).

Officers of Pension Examining Surgeons.—At the annual meeting of the National Association of United States Pension Examining Surgeons, held in Chicago, June 1, the following officers were elected: President, Dr. Henry B. Walter, Harrisburg, Pa.; vice-presidents, Drs. Allen W. Gray, Chicago; James B. Duncan, Bedford, Ind.; Edwin Bentley, Little Rock, Ark., and Franklin R. Garlock, Racine, Wis., vice-presidents; Dr. Philip Y. Eisenberg, Norristown, Pa., secretary, and Dr. Charles H. Glidden, Little Falls, N. Y., treasurer.

Lake Michigan Water Commission.—The Lake Michigan Water Commission was organized recently at Grand Rapids for the purpose of the prevention of pollution of Lake Michigan by legislation prohibiting the flow of sewage into the lake. The commission is composed of surgeons from Michigan, Wisconsin, and Illinois, and the War Department, and Public Health and Marine-Hospital Service. The following plans were agreed on at the recent annual meeting of the commission to further their work: To gather further information as to the existing conditions of the water supply; to study conditions from a hygienic standpoint; to discover whether or not Lake Michigan is polluted, with special reference to conditions along the shores; to analyze the present condition of the lake water with relation to depth; to study the problem of non-sewered towns, both those using lake water and those getting their supply from wells, and, finally, the pollution of streams emptying into the lake.

Fourth Congress of the French-Speaking Physicians of North America.—This medical congress is to be one of the features of the widely advertised celebration of the three hundredth anniversary of the founding of the city of Quebec. The congress will convene July 20 to 22, with Prof. A. Simard in the chair. Dr. S. A. Knopf, New York, has been appointed one of the twelve honorary presidents of the congress, the only one from this side the Canada boundary, with Pozzi and Triboulet, of Paris. The subjects to be discussed are: "Hygiene in Education;" "Infection of the Biliary Passages," and "Tuberculosis of the Kidney." The *Bulletin Médical de Québec* states that the Canadian railroads and steamboat lines allow half rates between July 18 and August 3 to all who apply for a ticket to Quebec, and the railroads in Eastern New England are said to have agreed to a similar reduction. Lodgings have been reserved for members of the congress at from $2 to $5 a day, or in the "Tented City" for less. The St. Louis Club will also throw open its doors to the members during the anniversary festivities. Dr. W. Verge is president of the committee on accommodations. Besides the congress badge the committee expects to present each member with a souvenir plaque. The meetings will be held in the historic Laval University. Dr. Knopf is to deliver an address entitled, "Le Sanatorium, le Dispensaire et l'Hôpital Spécial pour le Traitement des Tuberculeux." A notable delegation from France will be present at the congress.

FOREIGN.

Hernia Institute at Milan.—The Bassini Institute at Milan, which is devoted exclusively to the free treatment of hernia in the poor, has recently received some comparatively large donations.

The International Bureau of Public Health.—The Italian government has appropriated $3,000 as its annual share in the expenses of the central office, which the International Public Health Conference last December agreed to organize, with headquarters at Paris.

Cannizzaro Chemistry Prize.—The Academy of Sciences at Rome, Italy, announces the endowment of a prize of $2,000 to be awarded perpetually every two years for the best work on pure and applied chemistry with special regard to physical and general chemistry. The prize is open to the world.

Sixteenth International Medical Congress.—A number of copies of the preliminary program, regulations, application blanks and various notices in regard to the Sixteenth International Medical Congress have been received at this office and are at the disposal of those interested. As already announced, this congress is to be held at Budapest, Aug. 29, 1909, and extensive preparations are being made to insure its success. Dr. J. H. Musser, 1929 Chestnut Street, Philadelphia, is the chairman of the national committee for the United States, Landouzy for France, Waldeyer for Germany, Pavy for Great Britain and Baccelli for Italy. An international prize of $200 has been offered by the Hungarian government for the best work on the Etiology of Trachoma, manuscript or published for the first time in 1907 or 1908, in any of the congress languages. Works sent in to compete for the prize must be in the hands of the minister of the interior by Dec. 31, 1908. (Address Belügyministerium, Budapest, Hungary.) The International Committe of Travel for Medical Study will also hold its general assembly at Budapest during the congress. There are to be 21 sections, with a subsection for orthopedics. The section for otology is practically identical with the Eighth International Congress for Otology. The congress fee of $5 may be sent to the treasurer of the congress. (Address M. le Trésorier du XVIe Congrès International de Médecine, Esterhazy-utcza 7. Budapest VIII.) The membership of the American committee was given in THE JOURNAL, June 13, page 2008, with other details in respect to the congress.

Plague in South America.—Consul Manning reports that the presence of bubonic plague in La Guaira and other ports of Venezuela has caused a general awakening in Cartagena to the necessity of proper precautions to prevent introduction of the disease. With this object the authorities of Cartagena and the commercial houses have taken up the cause of sanitation and are acting as rapidly and with as much vigor as possible. Under the general direction of the sanitary inspector of ports the municipality has organized various commissions, charged with the carrying out of measures. A sanitary police corps has been organized, house-to-house inspection is being made, and all refuse and trash are carted away and destroyed. A temporary garbage crematory has been erected, where this class of waste from the city is being burned. The instructions to the sanitary police are being carried out as fully as possible. Lazarettoes will be provided outside the zone of danger from the infection reaching the city to which any suspicious cases are to be taken, should such appear, and it is the intention of the health authorities to isolate any future cases of yellow fever or smallpox. Of the former, no cases have appeared here since June, 1907, and no smallpox has been reported in the city since then. For further protection against plague a campaign against rats, mice and bats will be necessary. The latter are very plentiful, inhabiting the underground passages of the old forts Castillo de San Felipe, San Sebastian and others, as well as unoccupied houses. With a view to the destruction of rodents the use of rat traps, rat poisons and other plans are being adopted as rapidly as possible.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, June 20, 1908.

Economic Position of German Physicians.

Since I gave, in my former letter, an account of the preliminary and postgraduate education of physicians in Germany, I will add some observations on the important factor, in the professional life of medical men, of their economic mode of life. For the last decade there has been much complaint over the material position of German physicians. In the first place it must be borne in mind that from various causes all of the learned professions in Germany (and possibly in many other countries) have, as the saying goes here, not been lying on beds of roses, and the medical profession is no exception. One common cause for the material depression of all the learned professions is their overcrowding. The tendency to enter the academic callings has been a strong one for decades in Germany, and as the increase of population does not keep pace with it, the prospects for adequately supporting the great mass of the members of the learned professions have been correspondingly poorer.

In order to appreciate these conditions in the medical profession, it is only necessary to point out, that in the year 1897, according to the Imperial Medical Calendar, there were in the German empire 4.75 physicians for 10,000 inhabitants. In 1907, on the other hand, there were 5.25. In absolute figures there had been added more than 6,000 to the number of physicians in Germany. Aside from the overcrowding of the profession, two factors have been of special importance in producing a deterioration of the economic condition: social legislation, and the continuous spread of quackery. Since 1883 the great mass of the working population have been insured by an imperial law against sickness, accidents, and disability. The insurance against sickness is of most importance to the medical profession. By this law a large portion of the population of Germany is excluded from the private practice of physicians; the insured have a right to free medical treatment and the physicians are paid by the local medical insurance clubs, the *Krankenkassen*. The economic significance of this organization for the medical profession may be shown by the following figures: In 1906 there were about 23,000 such societies, which included 11,500,000 members. The number of cases of illness which involved inability to labor amounted to 4,500,000, with about 87,500,000 days of illness. The regular income of all the societies amounted to 293,000,000 marks ($70,320,000) the regular expenses, so far as concerns the cost of disease, were 241,000,000 marks ($57,840,000). Of these expenses of sickness 57,250,000 marks ($8,587,500) paid the fees of physicians. From these figures it may easily be understood what a powerful factor the insurance clubs are in affecting the economic situation of German physicians and also to what extent the German physician must be dependent on the insurance organization. In fact this dependency became especially acute in the first year of the social legislation, especially from an ethical standpoint, inasmuch as the managers, being aware of their power, made their right of mastery effective and looked on the physicians as their hirelings. In their efforts to obtain positions in the lodges physicians humbled themselves in an unworthy manner. Competition developed among them, from which corruption was not lacking.

As usually happens, every extreme finally provokes a reaction, and so the evil conditions described led to a combination among the physicians for mutual assistance which had for its aim to shake off the yoke imposed on them by the managers. In Berlin an agitation took its rise which had for its aim the introduction of the so-called "free choice of physicians" for all the sick benefit societies. While formerly each had a number of permanently employed, so-called "fixed" physicians, who furnished medical treatment to the sick members for a definite yearly salary, and who were appointed by the management, it was proposed that all the physicians of a city, under certain conditions, should be permitted to participate in the treatment of all the members of the society. The funds which were at the disposal of each society for the treatment of the sick (limited in proportion to the revenue) should be divided among all the physicians who had treated the sick, according to a definite uniform tariff. This proposal, which makes the physicians independent of the management and removes the monopoly of the permanently appointed "insurance physicians" in favor of the entire medical profession, has won the sympathies of the great majority of medical men. Most German physicians are supporters of the so-called "free choice of physicians." The opponents among medical men are naturally those who are in possession of the fixed medical insurance positions, while outside the profession the opposition is greatest from the directors of the insurance societies. The latter are fighting the "free choice of physician" most vigorously under the pretext that under this régime the cost of treating the sick would be too high, both in itself and in relation to the funds set apart for the purpose. The chief objection, however, is the unacknowledged motive that under the "free choice of physicians," medical men would be less under the control of the directors of the insurance societies.

In this struggle there have been severe conflicts between the physicians and the societies. The entire medical profession of one city were excluded from all part in the treatment of the members of the society, and on the other hand, the physicians of another city struck and refused to treat the members. The government has been obliged to intervene repeatedly; lawsuits have been instituted, etc. In view of this continuous strife from which both parties have suffered, it must be the endeavor of the government to find some means of settlement. The physicians some years ago organized themselves into the so-called Leipsic League for the Protection of the Economic Interests of Physicians. This embraced in 1907 about 20,000 physicians, or two-thirds of the entire German medical profession. The members of this association have of late years at their medical meetings repeatedly passed resolutions in which the legal authorization of the "free choice of physicians" was demanded, and it seems impossible that this demand shall be ignored much longer. This demand is now being pressed the more earnestly by physicians because by the contemplated reform of the sick insurance legislation the number of those who belong to the *Krankenkassen* will be very considerably increased. Under the former provision of the law those must insure themselves against sickness who possess an annual income not above 2,000 marks ($480), the proposed law will include those whose income is not above 3,000 marks ($750). At present 36 per cent. of the inhabitants belong to the insurance societies, but it has been estimated that in the kingdom of Saxony after the innovation just mentioned goes into effect, 92 per cent. of the entire populace will be members. In this way the free private practice of the physician will be still more contracted than heretofore, and the necessity of physicians securing conditions as favorable as possible for the treatment of the sick in the *Krankenkassen* is so much the more pressing. A conference has been called by the Imperial Office of the Interior for June 11, at which the question of the free choice of physicians is to be discussed by the supporters of both views with the participation of the representatives of the government. With reference to the results of this conference I will write later.

LONDON LETTER.

(From Our Regular Correspondent.)

London, June 20, 1908.

Coroner Troutbeck and the Profession.

The conflict between Coroner Troutbeck and the medical profession described in the last letter is attracting widespread attention, both in medical and lay circles. In the columns of the *Times* the coroner and Sir Victor Horsley wage an acrimonious controversy. Mr. Troutbeck's view that if a patient dies during or after an operation the surgeon should be held responsible until he has cleared himself before a coroner's jury is strongly repudiated by the profession. A coroner's court is no fit tribunal to decide whether an operation should have been performed or not, or to criticize the skill of the operator. If a surgeon in the often difficult and delicate problem of deciding whether or not an operation is desirable is to have the possibility confronting him of having his action reviewed by such an incompetent tribunal his judgment would be disturbed, and in desperate cases patients would be liable to lose the possibility of benefit from operation. Mr. Troutbeck holds that if a death is accelerated by an operation that fact brings it within the scope of the Coroner's Act which requires that when a person is reasonably suspected of dying a violent or unnatural death an inquest should be held. But in the *Times* Dr. Shearer very well argues that a death from disease under treatment *secundum artem* is not *contra naturam*. Further, if an inquest should be held on a patient who dies after operation, for the same reason an inquest ought to be held on a patient who dies under medical treatment, for there is the same possibility that the treatment may have accelerated death. The whole question, which is of such fundamental importance to the profession, is under consideration by the British Medical Association.

A Notable Medical Centenarian.

On July 1, Sir Henry Alfred Pitman, for over thirty years registrar of the Royal College of Physicians, will attain his hundredth birthday. To mark the event some of his old professional friends will visit his residence at Enfield and present him with a piece of plate. Despite his age, Sir Henry enjoys excellent health; in fact the only defect from which he suffers is impaired eyesight. When in practice he spurned a carriage and visited his patients on foot.

Healthy London.

During the third week in June the death rate in London was the lowest on record. It was only 10.8 per 1,000. The rates of the previous weeks were 11. 11.6 and 11.7.

The Entente Médicale.

The *entente cordiale* between England and France in recent years has had as one of its manifestations more intimate relations between the medical professions of the two countries, which has taken as one of its forms visits in a body of English physicians to Paris and of French physicians to London. A short time ago Sir Dyce Duckworth delivered a lecture in Paris to the Faculty of Medicine. Now in return Professor Raymond, the successor of Charcot at the famous Salpêtrière Hospital will deliver a lecture at the Royal College of Physicians on *Les Maladies dites Familiales*. He will also hold a clinic at Guy's Hospital, where he will demonstrate in two or three nervous cases the methods he employs at the Salpêtrière.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(*Continued from page 52.*)

XVI. PROPRIETARY RIGHTS.

It is almost useless to discuss the purely academic question, whether the inventor of a medicinal agent should hold his discovery as a monopoly, or whether he should follow the example of the medical profession and renounce personal pecuniary reward. We may each have our personal opinions, but the fact remains that the chemical or pharmaceutical inventor is legally entitled to this monopoly; and he is generally disposed to insist on his legal rights. Indeed, by shrewdly utilizing certain technicalities, he can and does render this monopoly more complete and more permanent than was ever contemplated in the theory of the patent laws. The protection is so far-reaching that it checks further improvement, instead of fostering it, as theoretically it should do.

If the new remedy is really unique and valuable, if it is a genuine discovery and an advance, then it would be ungracious to begrudge the discoverer a reasonable reward in the way of protection, so long as this does not place a disproportionate burden on the public. Indeed, this proprietary protection may be to the best interest of the public, in those individual cases in which the discoverer employs a fair share of his profits in further research, to enable him to exercise and extend his inventive talent.

It is a little more irritating if the extra profit goes almost entirely to some large chemical corporation, which has forced the real discoverer to "sell out" for a mere pittance. But even in this case, there may be a fair value given in return. For instance, the expense of quickly introducing a valuable therapeutic agent is considerable, and the profits must be sufficiently large to pay for the advertisement. Right here, however, we should remember that the greatest discoveries require the smallest outlay for advertising. One of the objectionable features to proprietorship is that the users of a valuable invention must pay the cost of advertising the worthless invention.

ORIGINAL AND PSEUDO-ORIGINAL PROPRIETARIES.

On the whole, however, no one quarrels very seriously with the protection accorded to really original and valuable discoveries. It is otherwise with products which are not essentially original—and these constitute the bulk of the proprietary stock. Many "synthetics" even, are mere imitations of other successful products, and involve little more ingenuity than the placing of quinin in capsules. In some cases, all pretext of originality is dispensed with, as in the numerous proprietary hexamethylen tetramins or phenolphthaleins. One is sometimes tempted to wish that the patent laws were a little more effective in preventing this kind of discoveries. The worst examples, however, are the "proprietary mixtures."

By what right can the exploiters of Bromidia, Listerine, Glycothymoline and all the others, claim the protection due to discoverers? What is there original about these mixtures? So little that they would have no standing in the patent office, and their promoters are obliged to resort to the subterfuge of copyrighting a coined name, or to some similar expedient; or to the favorite "patent medicine" device of secrecy, partial or complete. Secrecy, in one form or another, is almost indispensable for the effective control of these specialties, which are not "discoveries" in any sense of the word.

The only legitimate claim of proprietary mixtures to protection and professional recognition would be by pharmaceutical superiority—by quality. If they really possess this superiority, it can be protected by the same methods that are used by the manufacturers of superior official products. These have not found it necessary to patent, copyright, or fancy-name their ether, or ergot, or quinin. A physician can prescribe any make of these official products which he believes superior, with very little fear that other makes will be substituted.

THE PSYCHIC VALUE OF A PROTECTED NAME.

The fact is, the manufacturers of the pharmaceutical "specialty" mixtures lay but small stress on the superior pharmaceutical quality of their goods—sometimes for good and sufficient reasons. They adopt these "protective" names for a very different reason, namely, *that they may safely make illegitimate therapeutic statements*. It is a puzzling psychologic problem, but it appears to be a fact, that it is easy to persuade the physician that the same substance acts differently when prescribed as "antikamnia" and as "acetanilidum;" while it would take much more argument to persuade him that A's make of acetanilid is superior to B's brand.

Proprietary rights are expensive luxuries to the public; some one must pay from two to ten times the ordinary profit to the manufacturer. But this is the smallest of their evils. Proprietorship, in addition to the viciousness of secrecy, always tends to extravagant therapeutic and other false claims, dangers which can only be avoided when the proprietor himself realizes the responsibilities as well as the profits of proprietorship. Otherwise, proprietary rights are inimical to the true interests of therapeutics. Proprietorship may be condoned in really new and meritorious discoveries, as a necessary and not unmixed evil; it has no excuse in imitations and mixtures. In these it is maintained merely and solely by the tolerance of physicians, who thus foster the abuses to which it gives rise.

(*To be continued.*)

DIASTASE FERMENTS.

Report of an Examination of the Diastase Ferments by the *Council on Pharmacy and Chemistry.*

A subcommittee makes the following report to the Council with the recommendation that it be published:

Among medicinal agents which may be classed as legitimate pharmaceutical preparations few are more widely advertised than are the starch-digesting ferments, the diastases. Along with a number of very good preparations there are several for which grossly exaggerated claims are made, and which are advertised to the medical profession in such a manner as to lead to distrust. Those which have merit have not always been marketed by methods which are wholly free from criticism. In several cases the claims made are more than can be substantiated by actual tests.

There has always been some obscurity in the method of reporting the digesting value of these diastases, and just what is meant by starch conversion or sugar formation is not always clear. In other words, the claims of the manufacturers are frequently stated in terms which are too general.

To be of value statements regarding the digesting power of the diastases should be based on standard and uniform methods of testing. But manufacturers have followed different methods of examination, which naturally makes a fair comparison of products difficult, and in some cases impossible, for any one not conversant with the methods of analysis. Recognizing the importance of uniformity in such work the subcommittee has had a large number of comparative tests carried out on the more important products of this class, employing several methods of analysis. In practice the diastatic action may be measured in terms of malt sugar formed from an excess of starch in a given time, or by the conversion of the starch to a point where the test with iodin shows the disappearance of the blue color, or the disappearance of all color. Results by these three methods are not directly comparable, although there must be some relation between them. Our first experiments were directed toward the clearing up of this point. These experiments were carried out largely by Mr. W. A. Johnson and the most important of them are given in detail in a paper which appears in the May number of the *Journal of the American Chemical Society*. From his numerous tests Mr. Johnson concluded that the best practical comparison may be made by carrying each digestion to the colorless end point, and in his paper certain suggestions are made as to the best methods of conducting the tests. These will be referred to below.

The following table contains the results obtained with a number of commercial products, when examined in this way, the digestions being continued through a period of ten minutes, at a thermostat temperature of 40 C. in all cases. All the products here examined came from the manufacturers, and the results were confirmed by tests on similar products bought in wholesale drug houses. The results are expressed in four ways for comparison as follows:

A.—Parts of 100 % starch digested to colorless endpoint in ten minutes.
B.—Parts of 92 % starch digested to colorless endpoint in ten minutes.
C.—Parts of 85 % starch digested to colorless end point in ten minutes.
D Parts of 85 % starch digested to loss of blue iodin reaction in ten minutes.

	A.	B.	C.	D.
Holadin	102.1	111 0	120.0	171 0
Taka Diastase	16 0	17.4	18 82	26 0
Taka Diastase Liquid.	0.38	0.41	0.45	0 61
Panase	113.0	123.0	133 0	203 0
Panase Essence	3 6	3.91	4.23	6 1
Vera Diastase Essence.	4.2	4.55	5.0	6 7
Diazyme Essence.....	6.12	6 66	7.14	10 3
Diazyme Glycerole....	6.12	6 66	7.14	10.3
Maltine, Plain	2.30	2.50	2.71	....
Maltzyme	2.87	3.12	3.37	....
Trommer's Extract of Malt, plain	0.65	0.71	0 77	....
Trommer's Extract with Cod Liver Oil......	0.38	0.41	0.44	....

The blank spaces in the fourth column of figures indicate that no tests were satisfactorily completed here to show the conversion to loss of blue color. In fact, with highly colored mixtures this test is not as easily made as the other.

A comparison of the results given in the table with the statements which appear in the manufacturers' circulars, etc., show that the digestive values are all lower than claimed, if we base our comparison on the colorless endpoint reaction, and anhydrous starch conversion. If, however, we carry the digestion merely to the loss of blue color, which seems to be the case in some of the tests frequently cited, and employ starch with an average water content of about 15 per cent., a very different status must be reported. In this manner of reporting results five of the preparations show even more than the claimed values, but the method should not be tolerated for obvious reasons. The results actually found should always be calculated to anhydrous starch for reporting.

The discrepancies between the values claimed for Holadin, Diazyme Essence and Diazyme Glycerole and those actually found in our tests are not very great.

While one part of Holadin by the firm's method is stated to digest 135 parts of starch to the practically colorless endpoint, column C shows that by the method employed in these experiments only 120 parts of 85 per cent. starch were digested to the colorless endpoint. Similarly, while for Diazyme Essence and Diazyme Glycerole it is stated that 1 c.c. will digest 8 gm. "dry" starch to the colorless endpoint, the results given in the table above show that one part digested 6.12 parts of 100 per cent. starch to the colorless endpoint. This is equivalent to 7.14 parts 85 per cent. starch, the kind referred to by the manufacturer.

The claims made for Panase are somewhat misleading and conflicting. In a recent circular issued by the manufacturers a statement is made to the effect that one part of Panase "is capable of digesting at least 200 times its weight of starch in 10 minutes," while in another part of the same circular the complete conversion of 200 parts of starch into sugars is claimed as the work of 1 part of Panase. This claim is certainly wrong, as there is a wide difference between the two kinds of reactions. The figures in the table are sufficiently clear on this point, and suggest a proper modification of the claim to agree with the facts.

The widest discrepancy between the values as claimed by the manufacturer and those found by actual tests seems to be shown in the case of Taka Diastase. The liquid preparation has been tested a number of times in different samples and has always been found weak. Some samples, in fact, were quite inert. This ferment appears to lose strength very rapidly in solution, as the manufacturers now concede. The stability of the solid product is also far from satisfactory, and appears to be less than that of the ferment as marketed some years ago. The two samples examined recently were weak.

From a number of experiments made it appears that the stability of the diastase preparations from the pancreas is greater. In two tests of the Holadin, made some months apart, no appreciable change was noticed. The same thing is true of Panase and the earlier product of the same firm, Vera Diastase. But in the liquid form these preparations, like the Taka Diastase, seem to undergo some alteration in converting power, as the figures above, and others, suggest. Of the samples reported here the Vera Diastase essence was obtained fresh and examined at once, while the Panase Essence was on hand some time before the tests were made. According to the statement on the label the latter should be the stronger, but the reverse is the case. The Panase Essence seems to convert less than is claimed for it, while the Vera Diastase Essence converts more, if we consider 85 per cent. starch and digestion to loss of blue color merely, as satisfactory conditions of the test. It is possible that the somewhat greater age of the Panase Essence may have some bearing on the result.

The two Diazyme preparations appear to be stable, as far as practical requirements are concerned. We have examined the contents of the same bottles of these products at periods three months apart, and found no change in the starch-converting power. The claims for the numerical value of the diastatic activity and also for the stability which are made for these liquid preparations seem to be borne out by the facts as observed.

For the other liquid preparations, Maltine, Trommer's Extract, Plain and Trommer's Extract with Cod Liver Oil, there are no exact claims as to the digestive power. For Maltzyme, it is claimed that 1 gm. has the power to produce from starch, in 30 minutes, at 37.8 degrees C., 6 gm. maltose. They contain large quantities of the products of enzyme digestion, and have relatively low residual digestive value. They should be classed among the so-called medicinal foods, rather than as agents of digestion.

In the experiments carried out by Mr. Johnson, referred to above, sugar determinations were made also, and these showed a close agreement with the starch conversion, carried to the colorless endpoint. In making the tests for the sugar formation advantage was taken of the results of the other tests, and enough ferment was weighed out in each case to effect the hydrolysis of one gram of anhydrous starch to the colorless endpoint in ten minutes. A series of tests was made on each substance with the same weight of ferment and starch paste, and at the end of 10, 30, 60, 120 and 180 minutes a flask containing the mixture was removed from the thermostat, and the amount of sugar formed, calculated as maltose, was determined. On removing each flask from the thermostat further action was always checked by immediate boiling. The amount of sugar formed at the end of ten minutes was essentially the same in all the samples tested, which included the first eight of the table above. For the gram of anhydrous starch, made up to a 2 per cent. paste, the maltose formed varied between 611 and 635 milligrams, which agrees very well with the usual findings for diastase digestion, under like conditions. There are many such results in the scientific literature.

In the longer periods, however, the amount of sugar formed by the Taka-Diastase increased somewhat more rapidly than was the case with the other ferments, and the results of the determination after 180 minutes pointed to the evident conversion of some of the maltose into glucose. The mean value of the maltose formed by the other ferments in this time was about 860 milligrams, with variations from 855 to 872 milligrams, while for the Taka Diastase it was over one gram. But to secure these close results it must be remembered that very different amounts of the several ferments had to be taken at the start; that is, for the weaker digestants more, and for the stronger less was weighed out. The amounts taken varied inversely as their starch digesting activity, as shown by the first line of tests.

These relations may be illustrated by the figures in the following table, in which the first column gives the name of the substance, the second the number of milligrams actually required to convert 1 gram of starch to the colorless end-point in 10 minutes, and the third the weight of maltose formed in this time. The ferment substances were suspended in water and the proper volume was measured out to give the calculated weight. The sugar was found by titration with standard Fehling solution, and is calculated as pure maltose, proper allowance being made for the dilution of the titrated solution. The sugar amounts found under these conditions are essentially the same, but in producing the sugar 8.85 milligrams of Panase go as far as 9.79 milligrams of Holadin, 62.5 milligrams of Taka Diastase, 163.4 milligrams of the Diazyme liquids or 238.1 milligrams of the Vera Diastase Essence. In making comparisons by the table the fact must not be overlooked that the three preparations there last named are in solution, while the others are solids

TABLE OF SUGAR FORMATION IN 10 MINUTES

Column A gives the weight of ferment required in each case
Column B gives the weight of sugar formed in each case

	A	B
Panase .	8.85	622 mg
Holadin . ..	9.79	634 mg
Taka Diastase ..	62.5	611 mg.
Diazyme Essence	163.4	633 mg
Diazyme Glycerole .	163.4	635 mg
Vera Diastase Essence .	238.1	630 mg

These results, which have been obtained many times in repeating the tests, show that the starch conversion to the colorless endpoint, which is more easily and quickly carried out than is the sugar determination, gives a practically useful measure of the ferment activity, and a measure which bears a close relation to that of maltose formation. We, therefore, recommend the process for all the routine examinations of this nature which have to be made in the testing of the diastase ferments. As is explained in the article by Mr. Johnson, the process here employed was first suggested by Roberts for the examination of ferments of animal origin, and was later modified by Junck and by Francis, and applied to the ferments of vegetable origin. In our laboratory it has been submitted to critical revision with the object of securing greater accuracy through a fuller specification of details of manipulation. The most important points of the process are these, which are presented as easily and practically workable:

1. A clean grade of potato starch is thoroughly washed, first by decantation and then on a Buchner funnel. It is carefully dried at a low temperature, and finally at a higher temperature to a moisture content of about 10 per cent., the exact moisture content to be determined in a separate experiment.

2. For the actual tests about 22 grams of the starch is mixed with 100 c.c. of cold distilled water to make a uniform cream and then poured into 800 c.c. of boiling distilled water. The boiling is continued through ten minutes, and then enough water is added to make the actual starch content (anhydrous) exactly 2 per cent. by weight. For each test quantities of exactly 50 grams of the paste are weighed into a series of 250 c.c. flasks, which are clamped in a large water-bath kept at a temperature of 40 degrees.

3. The iodin test solution is made by dissolving 2 grams of iodin and 4 grams of potassium iodid in 250 c.c. of distilled water; 2 c.c. of this solution is then diluted with pure water to make 1,000 c.c.

4. In making up the diastase solution the operator must be guided by the results of a few preliminary experiments in each case. For liquid malt extracts, for example, 10 c.c. diluted to 100 c.c. will generally be a proper strength, while in the examination of the dry preparations on the market 200 to 500 milligrams, dissolved or suspended in 100 c.c. of distilled water will usually answer.

5. These solutions are used in this way: Small definite volumes of the dilutions are added to the flasks containing the starch paste in the thermostat, and with the least possible loss of time. The mixtures are well shaken. The volumes added may be as follows, but all diluted to that of the largest volume before *mixing*: 1 c.c., 2 c.c., 3 c.c., 4 c.c., 5 c.c., 6 c.c. In about eight minutes tests are begun by removing volumes of 5 drops from each digesting mixture by a pipette and adding this to 5 c.c. of the dilute iodin solution in a clear white test-tube standing over white paper. It is best to have a row of these tubes mounted to receive the liquids to be tested. If at the end of ten minutes drops from one of the flasks fail to give the iodin reaction we are ready for a second and more accurate test. Weigh out now 100 grams of the paste into each of six flasks, and, assuming that the endpoint in the first test was found between 4 and 5 c.c., add accurately to the six flasks these volumes of the diastase solution: 8 c.c., 8.4 c.c., 8.8 c.c., 9.2 c.c., 9.6 c.c. and 10 c.c. These volumes should all stand ready and all diluted to 10 c.c., so that they may be poured into the starch and shaken up without delay. They should also have the normal thermostat temperature of 40°, which precaution should be observed with the mixtures added in the first test. The tests with the iodin solution are repeated as in the first trial, and new limits are found between which the exact value must lie. For example, at the expiration of ten minutes the paste to which 8.8 c.c. of the diastase solution is added may show a faint yellowish dextrin color, while that with 9.2 is colorless. We may go further and try a series of new dilutions, but practically it is not necessary. In fact, we can not carry our readings to a much finer degree of accuracy, because of the difficulty of distinguishing between the effects of dilutions so near together, in many cases. In a case like the above illustration it is sufficient to take the mean of the last named dilutions, and calculate the results to the basis of one part of ferment and the starch converted by it.

6. We have recommended potato starch because it is possible to obtain it in a satisfactory condition of purity. The commercial corn starch, even after washing, does not appear to be suitable for the purpose. On microscopic examination the potato starch granules must appear clean and sharp.

The working method is seen to be simple, and if all the commercial diastase ferments are tested in this way their practical value may be easily compared. Until something better is proposed we believe the scheme as outlined may be safely followed, and that it will be perfectly fair to all concerned.

The above report was adopted by the Council, with the recommendation that before publication it should be submitted to the manufacturers whose products had been examined. The replies were reported to the Council by the subcommittee, and the following supplemental report was submitted to the Council and adopted:

This report has been submitted to the manufacturers of all of the articles described and opportunity given them to make any comment or criticism they saw fit to make. As might be expected, each firm was desirous of changing in some respect the wording of the report so far as it refers to the firm's products, but a careful consideration of these replies does not warrant the subcommittee in admitting the justness of any of the claims made.

Parke, Davis & Co. state that in testing their product, Taka Diastase, the reaction should be carried to the loss of blue color only, and claim that to digest to the loss of all color would work to their ferment "a very grave injustice." They say that "Taka-Diastase is recommended, not for the rapidity with which it converts starch into maltose and dextrose, but rather for its usefulness in carrying cooked starch through the preliminary stages of digestion or hydrolysis with remarkable rapidity." The subcommittee fails to see the force of this argument, since what is desired in a diastase is conversion of starch into sugar. Besides this, Taka Diastase does not appear to be any more rapid in the preliminary stages than are some of the others, and in the advertising literature it is praised for its power of sugar formation, as are all the others.

In the comments offered by Frederick Stearns & Co. objection is made to the passage in the report in which we point out the discrepancy between the digestion of 200 parts by weight of starch in ten minutes and the conversion of 200 parts of starch into sugars. The firm promises to correct this discrepancy, which should have been done long ago.

Fairchild Bros. & Foster object most strenuously to the position given Holadin in the table, and insist that by *their* method of testing, the product has a higher value than we give it. This, no doubt, is true, but the subcommittee is not concerned with the firm's method of testing, and must be allowed to employ its own, for the reasons pointed out in the report. The object is in part comparison, and for this uniformity of methods is necessary. In this connection it should be noted that in the past the firm has strongly favored the adoption of a uniform method of testing diastase products.

The manufacturers of Maltzyme write in a somewhat indefinite way of their disappointment in the findings of the report, but the letter calls for no special comment.

W. A. PUCKNER, Secretary.

INGLUVIN.

Report of the Council on Pharmacy and Chemistry.

A subcommittee of the Council reported that unwarranted claims and misrepresentation were made for Ingluvin by its manufacturers, William R. Warner & Co. recommended that the preparation be refused recognition and that the report be submitted to Warner & Co. for action.

The report was submitted to the firm, and after waiting one month and no acknowledgment or reply having been received, the Council directed its publication. It is as follows:

REPORT ON INGLUVIN.

Ingluvin is manufactured by W. R. Warner & Co., chemists, Philadelphia, Pa. The printed matter contains numerous claims and representations of which the following are specimens:

> "A positive specific for indigestion, dyspepsia and the most effective remedy in obstinate cases of vomiting of gestation. . . . A specific for vomiting in pregnancy in doses of from 10 to 20 grains, and a potent and reliable remedy for the cure of marasmus, cholera infantum, indigestion, dyspepsia, and sick stomach caused from debility of that organ. It is superior to the pepsin preparations since it acts with more certainty, and effects cures where they fail. . . . The natural glycocholic acid in Ingluvin is the active principle and the most efficient agent in the treatment of all stomachic and enteric disorders."

Two samples were purchased at different times in the open market and on examination found to consist essentially of powdered meat fiber mixed with what appeared to be a membranous tissue resembling the lining of a gizzard. Both samples on being tested by the method prescribed by the U. S. Pharmacopeia for estimating the strength of pepsin were found to possess little, if any, proteolytic activity. In order to determine whether or not the lining of a fowl's gizzard possesses proteolytic action, a fresh gizzard was secured, the lining washed slightly with water, then removed and on using one half of same in place of pepsin as prescribed by the Pharmacopeial method, it was found to digest 10 grams of albumin within the time limit. Pepsin, when properly kept, does not lose its strength to any material extent.

A careful examination was made for the presence of glycocholic acid, claimed to be the active principle of ingluvin, but its presence could not be established. Furthermore, the anatomic relations of the fowl are such as to preclude its presence.

The above shows that ingluvin does not possess nearly as much proteolytic activity as ordinary saccharated pepsin recognized by the 1880 Pharmacopeia and which was prepared on the basis of digesting 300 times its weight of egg albumin. Inasmuch as no glycocholic acid is present in ingluvin it would seem that saccharated pepsin would be far more efficacious in treating the abnormal conditions for which ingluvin is recommended in the advertising circulars. Furthermore, the claims made for the preparation are grossly extravagant.

A communication from Warner & Co. has been received since the above report was adopted in which it is stated: "The reason that previous letter was not replied to was because we were desirous of securing all the information possible on the subject. Since that time we have made considerable research and also made laboratory investigation, and are enclosing the accumulated data with diagram of a part of the alimentary canal showing the esophagus, crop and gizzard."

Much of the other matter submitted is immaterial. The following, so far as it means anything seems to confirm the correctness of the report of the Council's referee that ingluvin is practically devoid of proteolytic activity: " . . . the therapeutic activity must be due to the bitter property, rather than any proteolytic activity, and it probably increases, thereby, the functional activity of the stomach, by which the normal digestive process is increased. Ingluvin in a 0.4 per cent. hydrochloric acid solution at 37 to 40 C. or if mixed with an aqueous solution of pepsin under the same conditions possesses an acrid bitter taste and increases the secretion of the saliva and as this is practically the same condition as when in the stomach, it no doubt stimulates the depressed mucosa peptic glands and increases gastric secretion."

W. A. Puckner, Secretary.

COMMENT.

The fallacies attending the use of digestive ferments in most stomach diseases have been previously noted in The Journal.[1] In most digestive disorders a deficiency of the digestive ferment has not been proved. In cases in which pepsin is lacking, its administration is valueless unless it is combined with large doses of hydrochloric acid, and it is doubtful whether this combination is either necessary or conspicuously useful. There is, however, something so alluring about medication by digestive ferments which are assumed to supply a physiologic need, that since their discovery they have formed a fertile field for the activity of the manufacturer of proprietaries. As by scientific laboratory tests, it is possible to determine whether a given preparation has digestive power, the manufacturers of ingluvin avoid this point by claiming that the remedy acts, not on the food, but on the stomach itself. That remedies may exist which act as stimulants to the digestive secretions can not be denied, although at the present time this power has not been satisfactorily demonstrated. The proprietors of ingluvin finding that proteolytic activity is not to be attributed to this preparation of chickens' gizzards, announce a new therapeutic fact in the claim that "the natural glycocholic acid in ingluvin is the active principle and the most efficient agent in the treatment of all stomachic and enteric disorders." According to the report made to the Council there is no glycocholic acid in this preparation, nor is it possible, from the anatomic arrangements of the fowl's digestive apparatus, for it to get there. By all the tests which can be applied to determine its value this preparation is of much less value in digestive disorders than saccharated pepsin which was discontinued in the pharmacopeia because of its inferiority to the other forms of the ferment.

The repudiation, by the manufacturers, of the more absurd claims made for ingluvin, shows the need of maintaining an attitude of healthy skepticism toward the advertised therapeutic virtues of proprietary preparations. If a physician is disposed to use digestive ferments, he should give preference to the official preparations and ferments from other sources should be required to stand the exact tests which demonstrate the worthlessness of so many preparations on the market.

Religious Journals and Nostrums.

The editor of the *Gesundheitslehrer*, in commenting on the fact that a certain religious journal devotes one-third of its advertising to advertisements of unsavory "patent medicines," remarks: "What would the religious journals say if the medical journals were to devote one-third of their advertising space to announcements of things known to be directly contrary to all the teachings of the church?"

"Neriot Ferment."

Two handsomely dressed persons applied to a number of drug stores in Paris with a prescription calling for "Neriot ferment according to the formula of Dr. Henry (depot 129 Rue Montmartre)." The druggists sent to the depot and each bought a bottle of the ferment. It turned out that this depot had been rented for the day and a supply of bottles installed. The two swindlers decamped with the proceeds that evening, forgetting to pay the rent, but their landlord, finding the demand so lively, prepared more bottles and continued to sell the "ferment" until the police appeared. His "ferment" had the advantage of being harmless, as he used water alone.

Correspondence

Bacterial Therapy and Diagnosis of Gonococcus Arthritis.

Chicago, July 4, 1908.

To the Editor:—Referring to the editorial on Bacterial Therapy and Diagnosis of Gonococcus Arthritis, in The Journal, July 4, it would appear that the clinical reaction occasionally found following the administration of large doses of gonococcus vaccine was regarded as something recently discovered. It might prove a matter of interest, considering the importance attached to this statement, to know that such reactions are observed, at times, following the use of any vaccine. The local reaction at the site of inoculation is more common, consisting of a small nodule or indurated area beneath the skin, which is more or less sensitive to touch. The patient will frequently complain of this spot being sore or painful for several days after injection is made. If after several injections of vaccine a greatly increased dose is administered one may find a recurrence of the local reaction at all previous points of inoculation, as indicated by these tender indurated areas. Also, after an unusually large dose of vaccine, as I have observed in isolated instances, in the case of gonococcus and staphylococcus vaccines, at the time of injection the overlying skin may become red and hemorrhagic streaks may appear. A pronounced general reaction follows with exaggeration temporarily of the symptoms and signs of the local infection. The reaction at the site of inoculation in such cases may pursue a course similar to vaccination.

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[1] Feb 2, 1907, 415 and Feb 9, 1907, 521.

Such consequences depend on the altered reaction of the organism toward the particular bacterial product. The extent of the reaction will depend on this factor, the quantity of vaccine employed and the method of administration. This holds true not only for tuberculin, but for all vaccines. I have observed pronounced clinical and stick (inoculation site) reactions, following the use of staphylococcus, streptococcus, gonococcus, etc., vaccines. The stick reaction (the tender nodule under the skin at the point of injection) is the more common and has diagnostic value. The injection of a very large dose for the patient of any vaccine, corresponding to the organism or organisms causing the disease, may give rise to a general reaction, rise of temperature, etc., as well as to a stick reaction, and is of diagnostic value, though neither is of decisive differential diagnostic value.

WILLIAM J. BUTLER, M.D.

New York Bovine Tuberculosis Inspection.

ALBANY, N. Y., *June 27, 1908.*

To the Editor:—I have read with interest the statements in THE JOURNAL of June 20, concerning bovine tuberculosis in New York State. Feeling sure that you wish to present the facts correctly, I submit the following:

The Allds-Lansing bill when introduced provided for an additional appropriation of $200,000. This was cut in the senate to $75,000, which amount finally passed. This, together with the appropriation made in regular session of our legislature, puts about $130,000 at the disposal of the commissioner of agriculture in connection with his work against contagious and infectious diseases of animals.

Our veterinarians visit herds where contagious or infectious diseases are supposed to exist. They always make a physical examination first. If tuberculosis is believed to exist, the owners of the herd are asked if they want the tuberculin test used and almost always they request it. We now have on file about sixty such requests. We attach great value to the tuberculin test, as it is the best means known for diagnosing tuberculosis. The physical test has some value and we are using it for what it is worth. It will reveal certain advanced cases of tuberculosis and certain bad cases of tuberculosis of the udder. Our experience has shown repeatedly that some cases of generalized tuberculosis, such as would undoubtedly result in the contamination of the meat of the animal, can not be recognized by physical examination alone, but, so far as we know, they are always found when the tuberculin test is applied.

The special point which I wish to make in connection with your statement is that we have not found the tuberculin test "unreliable as well as costly and cruel." You may be interested also to know that we are now killing such reacting animals as the owners do not wish to keep in quarantine. The killing is done under federal supervision, which permits the use of such meat as is found wholesome. This, we believe, removes the greatest objection to the use of tuberculin. It should not be overlooked also that our new amendment provides for larger payments to farmers for animals condemned on account of tuberculosis.

R. A. PEARSON,
Commissioner, Department of Agriculture.

Dr. Hoffa Not Born in America.

MILWAUKEE, WIS., July 5, 1908.

To the Editor:—Your Berlin correspondent, whom you introduced to your readers as a man of high standing, writes of the late Professor Hoffa: "He was closely related to Americans, as he was born in South America." Now, all the numerous biographies of Hoffa I have read state that he was born in South Africa and was never in America until a few years ago. My criticism may seem trivial, but such statements, if allowed to stand, may reflect on the authenticity of other interesting things your correspondent is telling us.

CHESTER M. ECHOLS, M.D.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

County Society Uses Local Newspapers.

The Jefferson County (Texas) Medical Society has begun the publication in the newspapers of popular articles on medicine. The *Beaumont Enterprise* for Sunday, June 28, contains an excellent article, signed by the Jefferson County Medical Society, on "The Progress of Medical Science," wherein the development of medicine from earlier times to the present is briefly but interestingly summarized. Such articles published impersonally by a society for the benefit of the people of the county can not fail to be of great educational advantage.

The Lay Press on Antivivisection.

One of the most striking results of the recent session of the American Medical Association is the widespread and general comment of the better class of newspapers regarding the work and aims of the Association. It is equally significant that the feature of the session which attracted the most attention was the recommendation for a Council for the Defense of Medical Research, in order to counteract the antivivisection agitation which has become noticeable in several states. It is particularly gratifying to note that the newspapers, without exception, condemned the attempts to restrict scientific investigation by the limitation of animal experiments as unwise and unnecessary, and recognized that the regulation of such matters could safely be entrusted to the medical profession. One of the most interesting of these comments appeared in the *Sioux City* (Iowa) *Journal*, in which the entire question is summarized with remarkable accuracy and clearness:

> The aggressive stand in favor of vivisection taken by the American Medical Association at its Chicago meeting has renewed interest in an old debate. . . . The decision of the Association was that inasmuch as there is an organized campaign to promote sentiment against the practice a counter campaign of education be undertaken in its behalf. It would seem that not much earnest effort along this line would be needed to cut the ground from under the antivivisection propaganda. The sentiment against vivisection has been cultivated mainly by societies for the prevention of cruelty to animals. These societies do noble and useful work in protecting our animal friends from unnecessarily cruel treatment by brutal or thoughtless human beings. In the matter of vivisection, however, the advocates of humanity have taken the wrong tack and allowed their espousal of animal rights to supersede their recognition of human rights. Our whole civilization has moved on the theory that animal life must be sacrified to preserve human life. This principle is involved in the defense of vivisection, but the prosecution refuses to look at the real merits of the case. . . . In the battle against the bacilli the only way in which victory can be won is by experiment. Shall the experiment be made with dogs and guinea-pigs, or with little children and their parents? Or shall there be no experiments, even though there be certain knowledge that a successful experiment would save annually the lives of tens of thousands of human beings during all the generations to come? The antivivisectionists seem to think that doctors do their experimenting for their own amusement, and that they take a sort of fiendish satisfaction in the suffering that attends their work. As a matter of fact, the doctors are working for humanity in a much more practical way than the sentimentalists who are criticizing the inhumanity of vivisection. There may be cruelty in the connection with animal sacrifice, but it is safe to say there is very little avoidable cruelty. The newspapers that are proposing legislation against vivisection are proposing a very poor bargain. They propose in effect to trade a great deal of human life and happiness for a very little animal life and happiness. It is a proposal that can not withstand a campaign of education.

The *Buffalo News* says editorially, speaking of the action of the Association:

> The reason is that so much unwisdom is uttered, such un-

sound arguments advanced against the practice of vivisection that the progress of medical science itself is seriously threatened with hindrance and delay from that cause. This danger is recognized frankly by the Association, and it feels that nothing is left it but war or submission to the judgment of ill-informed and hopelessly prejudiced sentimentalists. . . . The progress of medicine and surgery . . . in the last fifty years has been due largely if not mainly to the practice of vivisection in the hands of those competent to employ that resource of study. The campaign against vivisection lacks discrimination. Its purpose is to put a ban on the practice even in the hands of the most considerate and expert of operators. It must fail because on the question of relieving human pain at the risk of comparatively little pain to animals or of no relief to humanity the animals will have to suffer the pain for the sake of the human advantage.

One of the most interesting comments appears in the *Saturday Evening Post*, in which, after stating that there are at any given time several hundreds of thousands of people in the country who are "sore at the doctor" for various reasons and ready to take up any war-cry against him, the editorial continues:

> But before the Association's disturbance subsides, the antivivisection crusade will have been dropped in favor of some fresher crusade. We recall the able editor who conducted a brilliantly successful crusade to make the zoo people feed the big snake on bologna sausage instead of rats, and followed it by one, equally successful, for the extermination of rats. To people having human ties animal experimentation is preferable to human experimentation, and the choice lies between the two.

The *Saturday Evening Post* is quite right in stating that this crusade on the part of many of its followers will soon give way to an equally energetic and intelligent movement in support of some other fad, and that many of its followers enter into such agitation without the slightest investigation or knowledge of conditions and consequently soon drop it for some newer sensation.

But legislatures are often influenced by such appeals and bills are frequently passed and become laws with just as little knowledge of conditions, or investigation on the part of the legislators, as is possessed by the advocates of the measure. It consequently requires just as much effort to counteract a sentimental and ill-founded movement as it does to carry on a more serious and important campaign. The time and energy spent by the medical profession in the last ten years in successfully opposing legislation which would deprive physicians of opportunities for research work could far better have been spent in investigating diseases and developing improved methods of treatment and prevention for them.

If the medical profession can be entrusted with the care of the lives and health of the men, women and children of the country it can certainly be trusted with the far lesser duty of protecting dumb animals against needless and unnecessary pain and suffering. The term "vivisection," so frequently used by the advocates of legal restriction, is in itself misleading and inaccurate. Probably 80 per cent. of the animal experiments performed to-day are done with a hypodermic syringe and should be called vivipuncture rather than vivisection, since there is no cutting connected with any stage of the experiment. The suffering experienced by a thousand guineapigs is probably not equal to that endured by a single little child suffering from diphtheria or scarlet fever.

Association of State Secretaries and Editors of State Journals.

On Monday night, June 1, preceding the recent Chicago session of the Association, an important movement was inaugurated in the organization of the state secretaries and editors association. The meeting was called by a committee on organization appointed at Atlantic City of which Dr. Walter Cheyne of South Carolina was chairman. Over forty editors of state journals and secretaries of state associations met at the Victoria Hotel and sat down to dinner together, following which the meeting was called to order by Dr. Cheyne, who called Dr. George H. Simmons to the chair. Dr. E. J. Goodwin, editor of the *Journal of the Missouri State Medical Association*, was elected secretary. Dr. Cheyne detailed the correspondence he had carried on with various state secretaries and editors and said that a field of usefulness was open to the new organization and that he believed much benefit would follow its establishment.

DR. WISNER R. TOWNSEND, New York, secretary of the Medical Society of the State of New York, was called on to discuss "The Duties of the Secretary." He said in part that the question seemed to resolve itself into a matter of labor—how to do more work and do it well. There were efficient secretaries and inefficient secretaries, but rarely one who was absolutely inefficient. If the state secretary would watch the slothful ones, they could be displaced or encouraged to do good work. Among the important duties of the secretary was attendance at the annual session of the American Medical Association. It would be of great value to every county society if it sent its secretary. This would inspire the secretary with new determination to work for the growth of his society, for at these meetings were found so many men who were doing things that we could not fail to be enthused. This Association should advocate a uniform plan for all county societies for the collection of dues and reporting of membership lists to the American Medical Association. The state secretary should be a capable and willing officer. He should assist and guide the county secretaries in their work and encourage them to persist in keeping up interest in the county society, but should never "nag" nor publicly find fault, especially about trifling details. Each secretary may have a different method of getting the results, but if he succeeds that is all that should be asked. Dr. Townsend said it was a great pleasure to testify publicly to the good work done by the secretaries of the county societies in New York State.

DR. MELVILLE BLACK, Denver, secretary of the Colorado State Medical Society, spoke on medical organization of the present day. He said that medical organization from every standpoint was to be encouraged and fostered. This would fill an hiatus in the scheme of organization and would be productive of great good, not only to the secretaries and editors, but to the county and state societies and to the American Medical Association. Through the state journals the members could be brought into close touch with each other, and the knowledge that their papers would be published in the journal would stimulate greater interest in society work and encourage more frequent attendance at society meetings.

DR. PHILIP MILLS JONES, San Francisco, secretary of the Medical Society of the State of California, said that medical organization was as much a business as the printing of books or the running of railroad trains. We must reach out, not for the men at the top—they could take care of themselves—but for the men who were struggling along in the middle or at the bottom and even hypnotize them into the society. Medical men must be kept busy in medical work, for if they were not busy working together, they would be busy at each other. He said that he had represented medical journalism militant for the last six years. While he knew that this was not the ideal type of medical journalism, it was the only type that he conceived to be of value to the medical society. The medical association journals should be be absolutely clean and free from the taint of blood money. Six years ago we had no way of telling whether the manufacturer, who sent his representatives to our offices, was telling the truth about his preparations or was lying about them. As a matter of fact, we know that there is not a manufacturer who has not misrepresented some preparation. How shall we discriminate between the true and false? Shall we appoint a nice, respectable publication committee, who will take the copy of the advertiser and look over it and finding it apparently acceptable, approve it? This would simply mean nothing in regard to an accurate solution of the problem. The Council on Pharmacy and Chemistry was the proper body to consult in these matters, and we should back up the work of this council in every possible way. It was the only institution in the world where the physician can go and ask if the constituents of products put out by advertisers were truthfully reported and receive truthful answers.

DR. A. E. BULSON, Fort Wayne, Ind., editor of the *Journal of the Indiana State Medical Association*, spoke on "The Difference Between the Dependent Journal and the State

Society Journal." Dr. Bulson said that he was in hearty sympathy with the organization of this association. He described the growth of the Indiana State Medical Association from a membership of 800 to its present membership of 2,800. He commended the work of the Council on Pharmacy and Chemistry, and said that he thought its findings should be strictly followed by all state journals and that only articles approved by it should be advertised. He said that he had edited for a number of years a journal which was dependent absolutely on its advertising income, but that he had always endeavored to keep the reading pages free from advertising. He had continued to publish a dependent journal until conditions in the state made it possible to publish a state journal which should be clean and should represent the better class of men in the profession.

Dr. A. W. McAlester, Jr., Columbia, Mo., secretary of the Missouri State Medical Association, presented a draft of a constitution and by-laws for consideration. As adopted, provisions were made for an organization to be known as the Association of State Secretaries and Editors of State Association Journals, membership to be limited to the secretaries of the American Medical Association, the secretaries of state and affiliated branch associations of the American Medical Association and the editors of state journals. Annual meetings are to be held each year on the day preceding the annual session of the American Medical Association. The objects of the association are to cultivate a closer relation among the state associations, to establish improved and more uniform methods of conducting business, to promote the interests of the state journals and to develop the best method of conducting them and by cooperating with the officers of the American Medical Association to promote welfare of the profession.

The following officers were elected for the coming year: President, Dr. Walter Cheyne, South Carolina; vice-presidents, Drs. Philip Mills Jones, California, and W. R. Townsend, New York; secretary, Dr. L. H. South, Kentucky. Dr. Cheyne announced the following committees: Committee of secretaries, Dr. A. W. McAlester, Jr., chairman, Missouri; Dr. W. R. Townsend, New York; Dr. Thomas McDavitt, Minnesota; committee of editors, Dr. E. J. Goodwin, chairman, Missouri; Dr. I. C. Chase, Texas; Dr. A. W. McCormack, Kentucky.

Maryland Establishes a State Journal.

The first number of the *Bulletin of the Medical and Chirurgical Faculty of Maryland* was issued July 1, 1908. This is the first appearance of the eighteenth medical journal owned and published by a state association. Dr. H. O. Reik of Baltimore is the editor of the new journal, with Dr. J. A. Chatard as associate editor and Dr. John Ruhräh, secretary of the Medical and Chirurgical Faculty of Maryland, as an ex-officio member of the publication committee. In the foreword the editor states the position of the new journal plainly and positively. After emphasizing the importance of official journals as a means of communication between the different component parts of a medical organization, and the increased need of such a medium following reorganization, the alternatives and advantages of establishing such a journal are discussed. The purchase of an established journal is generally impossible on account of the expense. Considering the plan of publishing society proceedings in a journal over which the society has no control, the editor says:

> Such a policy can not fail to place the society in a most embarrassing position. It is folly to expect any journal owned and controlled by laymen to respect the higher ideals of the profession. All such papers are conducted for the purpose primarily of making money and the business manager is none too particular about discriminating between the revenue tendered by the advertiser of a fraudulent proprietary medicine and that offered with the advertisement of an honestly conducted hospital or pharmacy. Consider for a moment how ridiculous it appears to read in one portion of a journal the resolutions enthusiastically adopted by the state society endorsing the work of the Council on Pharmacy and Chemistry of the American Medical Association, and then, turning to the advertising pages, to find nearly all the articles condemned by the Council glaringly and brazenly setting forth their false or exaggerated claims to virtue. It is silly to try to delude ourselves with the notion that there is no relation between the advertising pages and those devoted to professional or scientific matters. . . . The journal that pretends to be honest and to condemn fraudulent preparations and yet makes its living from the publication of such advertisements is accepting blood money. The medical society that endorses such a journal or that continues to publish its proceedings in such a journal after having failed in an effort to correct the abuses, or, worse still, that profits by the admission of such advertisements to a journal of its own, is morally responsible for the fraud perpetrated.

The editor then reviews the recent action of the state house of delegates which instructed the council to inaugurate the publication of a monthly bulletin. To insure the cleanly character of the new publication, it was further provided by resolution that "no advertisement of any proprietary or patent medicine that has not received the endorsement of the Council on Pharmacy and Chemistry shall be accepted." The Medical and Chirurgical Faculty of Maryland is to be congratulated on the high stand taken by its house of delegates as well as the character of this, its first official publication. After Jan. 1, 1909, the *Bulletin* will publish all the important transactions of the state and county societies. It is welcome to the ranks of state journals and will without doubt prove of great value to the physicians of Maryland.

County Society Acts in Contract Practice.

The Jefferson County (Wis.) Medical Society has unanimously adopted resolutions providing that no member of the society shall enter into any contract or agreement with any society, lodge or association whereby an indefinite amount of services is required for a fixed fee. This is in accordance with the general principles on this subject previously suggested in this department. The evil in contract practice is not in the fact that a contract exists, but that, in practically all instances, the terms of the contracts as previously entered into have been unfair to all the parties concerned.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month.

Fourth Weekly Meeting.

Carcinoma of the Liver.

Pathology.

Types of carcinoma, microscopic diagnosis of each. Gross appearances, (a) single tumor, with secondary deposits about it, (b) "Farre's tubercles" secondary to primary lesion. Primary or secondary cancer. Association of cancer and cirrhosis.

Symptoms and Diagnosis.

Symptoms: Variety and intensity of symptoms. Jaundice, pain, ascites, fever, cachexia, cerebral symptoms, metastases, the blood. Inspection, palpation, percussion.

Diagnosis: Carcinoma of pylorus or colon. Abscess, syphilis, benign tumors and hypertrophic cirrhosis of liver.

Cirrhosis of the Liver.

Atrophic.

Etiology: Alcoholism, age, sex, diet, acute infections, chronic diseases, cardiac and pulmonary lesions.

Symptoms: Prodromal symptoms. Obstruction to portal circulation. Gastrointestinal disturbances, spleen, urine, ascites. Toxemic symptoms. Facies, "caput Medusæ." Inspection, palpation, percussion.

Hypertrophic (Hanot).

Etiology: Sex, age, catarrhal jaundice, acute infections.

Symptoms: Onset, digestive disturbances. Jaundice, fever, pain, hemorrhages. Physical examination. Termination.

Biliary.

Etiology: Chronic obstruction to ducts.

Symptoms: Symptoms of cholangitis, jaundice, hepatic intermittent fever. Physical examination. Terminations.

Miscellany

Mendelism and Disease.—Mr. R. C. Punnett in an address before the Epidemiological Section of the Royal Society of Medicine (*Proc. Roy. Soc. Med.*, March, 1908), says that the recent work has served to confirm and extend the principles laid down by Mendel. He summarizes Mendel's law, using in illustration the possible variations between black, blue, and white, attainable by various crossings of these three colors in the Andalusian fowl, and sums up in general terms as follows: "The characters of plants and animals may in many cases be regarded as existing in alternative pairs. Corresponding to each member of such a pair is something representing it which may be carried by the gamete. These factors which the gamete carries are the channel by which the qualities of the parent are transmitted to the offspring. Every gamete contains one, and only one, of the factors corresponding to a given pair of characters, i. e., is pure for that character. For any given pair of characters, therefore, there can be two, and only two, classes of gametes: those pure for one member of the pair and those pure for the other member of the pair. But there can be three different kinds of zygote, for each zygote is formed by the union of two gametes; and since two kinds of gamete exist it is obvious that three kinds of union among them are possible. Two gametes, each pure for one member of the alternative pair of characters, may unite; or two gametes, each pure for the other member of the pair may unite; or, thirdly, two unlike gametes may unite. The zygote so formed contains representatives of each member of the pair, and is known as a *heterozygote* (hybrid), whereas zygotes containing representatives of but one member of the pair are termed *homozygotes*. Like the homozygote the heterozygote produces pure gametes; only it produces equal numbers of the two kinds instead of producing all of one kind. In this lies the explanation of the fact that hybrids mated together produce a definite proportion of the pure forms which subsequently breed true without ever giving a hint of their mixed ancestry." He discusses the results of breeding with the "dominant" and the "recessive" and catalogues a diversity of characters showing Mendelian inheritance, viz., size, structure, chemical properties, time of flowering, color, sterility and immunity (as to disease in wheat). He describes Biffen's experiment in crossing wheat, immune and susceptible to yellow rust, and considers it from the point of view of medicine probably one of the most important experiments ever made. Mendelian heredity in the human subject is illustrated by pairs of characters in eye color, brachydactyly, and certain forms of hereditary disease. Other points discussed are dihybridism, interdependence of characters and the nature of the alternative pairs, interaction of characters, gametic coupling, partial coupling, and sex limited diseases, explaining the limiting of hemophilia to males. Cases not dissimilar to those of sex limited diseases in man occur among animals, and he describes experiments by Mr. Baterson and himself in the transmission of pigmented characteristics in the silky fowl, where the unaffected male can transmit, but only to the opposite sex, which he hopes will throw light on diseases like hemophilia and peroneal atrophy. "There is little doubt but that a knowledge of Mendel's principles must be of value in the study of disease for when once Mendelian analysis has established the operation of the law and the nature of the characters concerned, we are in a position to predict always the probable, sometimes the inevitable, result of a given mating. When a brachydactylous man marries a normal woman we are certain that there is an even chance of any given child being born diseased or normal. When two normal people with night blind parents and grand parents marry we may predict with confidence that none of their children will inherit the disease."

In the hope of gaining information he suggests that diseases fall into at least three classes: "(1) Diseases which depend directly on a structural change in the gamete. by either the addition or subtraction of some character as compared with the normal, e. g., night blindness, brachydactyly, alkaptonuria. (2) Diseases in which such structural change of the gamete is without visible effect, but renders the individual liable to invasion by bacteria, etc. The disease is not manifested unless the structural change and the external organism are both present; e. g., rust in wheat. (3) Diseases caused by external invasion, for which immunity, as implied by gametic structure, is not known to exist, e. g., syphilis, ankylostomiasis. Of these three classes we should expect (1) and (2) to exhibit the phenomenon of Mendelian heredity in one form or another. But class (3) is of an entirely different nature and can not be inherited in the biologist's sense of the term. It seems not inconceivable that Mendelian analysis may be sometimes valuable as a criterion for separating this class of disease from the others."

Alleged Antitoxic Action of Salt.—A group of medical students at Buenos Ayres have been studying the action of salt as an antidote for curare according to the popular conception. Curare applied to a wound is not absorbed if salt is mixed with it or applied immediately afterward. Their experimental research is related in the *Revista del Centro Estudiantes de Med.*, viii, Nos. 77-79, 1908. It demonstrates that the addition of salt delays absorption of the curare, as also of any other poison, the salt inducing an osmotic current outward which interferes with the absorption of the poison. Any other chemical substance with this property answers the same purpose as the salt. It is exclusively a physical phenomenon.

Neutralizing Action of Cholesterin on Tetanus Toxin.—Almagia and Mendes have been conducting research at Rome in this line, and they found that cholesterin displayed a marked neutralizing power in respect to tetanus toxin, strychnin and curare. Otherwise fatal experimental doses of either were neutralized by injection of cholesterin, and also to a lesser degree by lecithin. Pulverized animal charcoal also neutralized otherwise fatal doses of strychnin in the animals. Tetanus toxin mixed in the test-tube with the charcoal did not seem to be influenced by it. Lecithin seemed to enhance the toxic action of curare while cholesterin apparently neutralized it. Their work is briefly mentioned in the *Münch. med., Wchnschr.*, April 14.

Book Notices

HANDBUCH DER BIOCHEMIE DER MENSCHEN UND DER TIERE. Herausgegeben von Dr. Phil. et Med. Carl Oppenheimer, Berlin. Erste Lieferung, mit 11 Abbildungen. Pp. 160. Paper. Price, $1.25. Jena: Verlag von Gustav Fischer, 1908.

Biologic chemistry is rapidly coming into its own as a distinct branch of the biologic sciences, instead of occupying its former suppressed position as either the handmaid of physiology or an ignoble offshoot of pure chemistry; in witness whereof we have the appearance within two or three years of new journals of biologic chemistry in America, England and Germany, as well as the newly formed and flourishing Society of Biological Chemists. One of the several reasons for the tardy advance of biologic chemistry was the ineffective and unsatisfactory methods of analysis that were available for the study of the highly complex substances with which this science has to deal; consequently its rapid development in the last few years has been associated with and largely the result of improvements in analytical methods. The "Handbuch der Biochemie," therefore, has the important function of collecting these analytical methods from their scattered sources in articles on original research, and making them available for the research worker and for the clinical laboratory. This valuable enterprise will undoubtedly meet a hearty reception from the large and increasing number of chemists, biologists, and physicians who are applying chemical methods to research, diagnosis and therapeutics; and its quality is assured by the reputation of its editor and the large staff of associates. The scope of the publication is shown by the fact that it will appear in twenty separate sections, each about 160 pages in length. Such a book is much needed, and it will undoubtedly be found soon on the shelves of every well-equipped laboratory of physiology, biology, chemistry or biologic chemistry.

Practical Treatise on Fractures and Dislocations by Lewis A. Stimson, B.A., M.D., etc., Professor of Surgery in Cornell University Medical College, New York. Fifth Edition, Revised and Enlarged. Illustrated. Cloth. Pp. 847. Price, $5.00. New York and Philadelphia: Lea Bros. & Co., 1907.

About one-third of this volume is devoted to a presentation of the etiology, pathology, diagnosis, prognosis and general principles of treatment, the remainder being given to special diagnosis and treatment of the various forms of this class of injuries.

Valuable additions have been made to this edition from the accumulation of the literature of late years based on the revelations of the Roentgen rays regarding injuries of the small bones of the wrist and foot and of the ends of the long bones. The large amount of material at the command of the author has been utilized to make this book one of the most complete from the clinical standpoint in the English language. There have also been added many new cuts and skiagrams, the latter helping to make clear the exact nature of some forms of fractures and dislocations which recently have been only partially or not at all recognized.

The entire work is authoritative and a safe guide for the practitioner as well as for the student.

We would specially commend the views of the author on the question of direct fixation of the bone fragments in fractures; he prefers temporary direct fixation or fixation by absorbable suture to direct fixation by non-absorbable suture or metallic apparatus. While admitting the value of the Roentgen rays in some obscure cases, in fractures of the small bones and in fractures near joints, Dr. Stimson points out that errors of interpretation are frequent. The skiagram should be interpreted by the aid of the clinical findings and of considerable experience in its use. He is conservative and we believe therefore correct in his views regarding treatment of fractures of the vertebra and of the patella.

The Newer Remedies. By Virgil Coblentz, A.M., Phar.M., Ph.D., F.C.S. Professor of Chemistry in Columbia University, Department of Pharmacy. Fourth Edition, Revised and Enlarged. Cloth. Pp. 133. Boston: The Apothecary Publishing Co., 1908.

In this book the composition of the newer remedies is given in accordance with the statements of the manufacturers, except, as the author states in the preface, in those instances in which analyses have been published by independent investigators. Coblentz calls attention to the work in this line being done by the Council on Pharmacy and Chemistry of the American Medical Association, the Pharmaceutical Laboratory of Berlin University, and by Drs. Zernik, Koch and Aufrecht, whose publications appear in the *Apotheker Zeitung*, the *Pharmaceutische Centrahalle* and the *Pharmaceutische Zeitung*. In most instances the remedies are listed and described under the proprietary name, a cross reference being made to the chemical name—for example: acetyl-salicylic acid—aspirin. Phenalgin is given as a synonym for ammonol. The analysis published by the Council on Pharmacy and Chemistry for this latter preparation is given, but there is no credit to either the Council or The Journal, in which it appeared June 3, 1905, the inference being, naturally, after reading the statement in the preface above referred to, that the analysis is that furnished by the manufacturers. The same criticism applies to the analysis of orangeine. No mention is made of the adverse reports of the Council on tartarlithine, uron and thialion. In some other cases, as for example Tyree's powder and oxychlorin, reference is made to the published reports of the Council.

Meat and Food Inspection. By Wm. Robertson, M.D., D.P.H., F.T.S., Lecturer on Public Health. Royal College for Surgeons, Edinburgh. Cloth. Pp. 372, with illustrations. Price, $3.50. Chicago; W. T. Keener & Co., 1908.

While the training of a veterinarian is needed to meet the more complicated problems arising in the inspection of animals intended for food, Dr. Robertson holds that every student of medicine possesses the requisite knowledge of pathology to pronounce opinions on pathologic conditions of animals intended for food and that even the intelligent layman after close study can become a judge of the wholesomeness of meats. Considering the importance of the subject it is strange that so little attention has been paid to it. Where the sanitary authorities can not afford to employ a special veterinarian, the health officer should fit himself for the ordinary duties of food inspection. To assist the latter in such preparation, the author has included in the scope of his work the inspection of stables, pigstyes, milk-shops, etc., as well as the inspection of slaughter-houses and meat. These subjects occupy the first half of the book, while the second half consists of the laws relating to food inspection, those in force in the United States being given by Dr. Maximilian Herzog in an appendix. The volume, although of special value to British officers, ought also to be very serviceable to American sanitary authorities. It is well illustrated.

The Efficient Life. By Luther H. Gulick, M.D., Director of Physical Training in the New York City Schools. With Double-page Frontispiece. Cloth. Pp. 195. Price, $1.20 net. New York: Doubleday Page & Co., 1907.

Gulick appropriately dedicates his book "to Theodore Roosevelt, who sometimes leads the simple life, who often leads the strenuous life, but who always leads the efficient life." The volume may be put into the hands of patients who wish advice about eating, sleeping, bathing, exercising and, in general, putting the body into a condition in which the greatest efficiency may be obtained. The soundness of the advice may be illustrated by the following on stimulants: "It is never safe to consent to dose a man up, unless you can get him to give you his word of honor that he will give himself a corresponding vacation as soon as the special strain is over." And this: "Pain is like a danger signal on a railroad. . . . There are times when it is perfectly right to aim at the pain. . . . Perhaps some important work must be carried through." When a man stops the pain with drugs, "from that moment on he has assumed absolute responsibility for the conditions, whatever they are, that gave rise to the pain. . . . A headache powder does not hit the cause of the headache any more than a laxative hits the cause of constipation or a spoonful of pepsin the cause of indigestion."

Les Pseudo-Bacilles Acido-Résistants. Critique des méthodes de coloration du bacille tuberculeux. Révision du groupe des bacilles dits acido-résistants. Par le Dr. André Philibert. Travail du Laboratoire de bactériologie de la Faculté de médecine de Paris. Paper. Pp. 144. Paris: G. Steinheil, Editeur, 1908.

This is a monograph from the laboratory of bacteriology of the University of Paris, containing a thorough consideration of the causes and significance of the acid-resisting property of *Bacillus tuberculosis* and a few other organisms. Some of the conclusions reached are of great importance for practical diagnosis, and they are probably warranted. Among them are these: True acid-resisting bacteria consist of two groups, the *B. tuberculosis* in all its varieties, and the "tuberculoid" bacteria of milk, grains, grass, etc. There also is a third group of acid-resisting bacteria which have been found in urine, smegma, sputum, sebaceous material, fibrinous exudates, and in cadavers, in which this staining property is an acquired character, perhaps due to the character of the soil in which the organisms have been grown. It is of course important that these organisms be distinguished from the true tubercle bacilli, and this is not difficult because, though acid-resistant, they are not alcohol-resistant. Consequently, if in staining the decolorization is made with alcohol according to the regular Ziehl-Neelsen method, the forms of this third group will be decolorized.

Formulaire Synthétique de Médecine. By Dr. L. Prod. Pp. 601. Price, 6 fr. Paris: Jules Rousset, 1908.

This formulary book, suited especially to the needs of French physicians, is constructed on a somewhat different plan from other similar works. It aims to give the properties of medicines and at the same time their therapeutic indications and to analyze from the therapeutic side the indications for treatment afforded by individual symptoms. Not only are the indications for each remedy given, but the contraindications are also pointed out. Other methods of treatment besides drugs, such as climate, mineral waters, electricity, etc., are included. The book is of a convenient size for the pocket and bound with flexible covers.

Taschenbuch der Physiologie By Prof Dr Med H Boruttau, Berlin Vols I and II Paper. Price, $6 00 per set. Leipzig Dr Werner Klinkhardt, 1908

This represents a German variety of that familiar pedagogic abomination, the "quiz compend," which seems generally to be constructed with the sole object of making thinking an unnecessary accomplishment, and of substituting the habit of mental cold storage of facts and near-facts in place of habits of observation and deduction. The quality of a medical school may be estimated as in inverse proportion to the use its students find for this sort of publication.

Commoner Diseases of the Eye By Casey A Wood, M D, C M, D C L, Professor of Ophthalmology, Northwestern University Chicago, and Thomas A Woodruff, M D, C M, L R C P. (London), Ophthalmic Surgeon, St Luke's Hospital and St Anthony de Padua Hospital, Chicago Third Edition, Enlarged and Improved Cloth Pp 598 Price, $2 50. Chicago W T Keener Co, 1907

In the new edition this excellent little volume has been enlarged and much improved, making it more than ever a practical text book for the general practitioner who must be acquainted with all the common eye affections and yet cannot give time to master all the details of volumes for specialists.

The Sanitation of Recreation Camps and Parks By Dr Harvey B Bashore, Medical Inspector for Pennsylvania Department of Health First Edition Pp 109, with illustrations Cloth Price, $1 00 New York John Wiley & Sons London Chapman & Hall, 1908

This little work details the sanitation of camps, whether military, labor, hunting or recreation, and the keynote of it all is pure water and the proper disposal of waste

Queries and Minor Notes

Anonymous Communications will not be noticed Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed

COMPOSITION OF GOAT S MILK

Feslin, Egypt, June 14, 1908

To the Editor —Kindly give me the percentage of fat proteid, etc, in goat s milk as compared with cow s milk

H E Hanson

Answer —According to Bunge (Text Book of Physiologic and Pathologic Chemistry, second English edition), one hundred parts of milk contain

	Cow	Goat
Casein .	3 0	3 2
Albumin .	0 5	1 1
Total proteids .	3 5	4 3
Fat ..	3 7	4 8
Sugar of milk	4 9	4 5
Ash . ..	0 7	0 8

REPTILES DO NOT LIVE IN HUMAN STOMACH

Great Mills, Md, June 23, 1908

To the Editor —Is it possible for a snake or reptile to live in the human stomach?

H A Brooks, M D

Answer —No authentic case is known of the existence of a living, air breathing animal in the human stomach The accounts of such conditions are founded on abnormal sensations erroneously interpreted by credulous people to indicate the presence of a living animal The cases should be treated in such a way as to remove, if possible, the morbid sensations and at the same time dispel the delusion founded on them

COMPRESSION THERAPY IN GYNECOLOGY.

Louisville, Ky

To the Editor —Please refer me to some book or article that gives indications and technic in the use of the colpeurynter filled with mercury This method, called the weighting treatment, is referred to in The Journal, Jan 25, 1908, in an abstract on page 323

R R Elmore

Answer —This method of gynecologic treatment was evolved by Ludwig Pincus of Danzig, Germany, and described by him in a monograph entitled "*Belastungslagerung, Grundzuge einer nicht Operative Behandlung chronischentzundlicher Frauenkrankheiten und deren Folgezustände,*" Wiesbaden, 1905 J F Bergmann A description of the method is also given in the *Monatsschrift für Geburtshulfe und Gynakologie*, xxi, 71 A short abstract was also published in The Journal, May 20, 1905, xliv, 1650

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S Army, week ending July 4, 1908

Kirkpatrick, T J, major M C, ordered from Ft Moultrie, S C, to Chickamauga Park, Ga, for duty

Baker, F C, capt, M C, ordered from Ft Oglethorpe, Ga, to Chickamauga Park, Ga, for duty

Wickline, W. A, capt, M C, left Army G H, San Francisco, with one half of Co B H C, for duty at Leon Springs, Texas

Zinke, S G, capt, M C, ordered with Field Artillery from Ft Leavenworth, Kans, to Ft D A Russell, Wyo, for duty during the maneuvers

Vose, W E, capt, M. C, ordered from Ft Des Moines, Iowa, to Ft Mackenzie, Wyo, for duty in the field

Reynolds, C R, capt, Cowles, C D, Jr, first lieut, Huber, E G, first lieut, and Lambie, J S, Jr, first lieut, M C., left Gen Hosp, Washington, D C, with 50 men of Co C, H C, for Chickamauga Park, Ga, Field Hospital No 8

Whaley, A M, capt, M C, left Ft. Sam Houston, Texas, for duty at camp, Leon Springs, Texas

Lamson, T, capt, M. C, granted leave of absence for two months, with permission to ask extension of one month

Manly, C J, capt, M C., granted leave in the United States from July 12 to Sept 15, 1908

Clark, J A, capt, M C, relieved from further duty at Ft Oglethorpe Ga, and temporary duty at Madison Barracks, N Y, and ordered to proceed Aug 1 to Ft Liscum, Alaska, for duty

Hanson, L H, first lieut, M C, when relieved at Ft Liscum, Alaska, ordered to Seattle, Wash, for orders

Grissinger, J W, capt, M C, relieved from duty at Ft Ethan Allen, Vt, and ordered to proceed Aug 1 to Ft Egbert, Alaska, for duty

Schmitter, F, capt, M C, when relieved at Ft Egbert, Alaska, ordered to Seattle Wash, for orders

Wyeth, M C, Borden, Wm C, Crosby, W. D, Stephenson Wm, Mearns, E A, Gandy, C M, Phillips, J L, Edie, G L, Ewing, C B, McCaw, W D, and Kean, J R majors, M C, ordered to report at Washington, D C, Sept 21, 1908, for examination for promotion

Wall, F M, contract surgeon, ordered from Ft Oglethorpe, Ga, to Chickamauga Park, Ga, for duty

Cattermole, C A, contract surgeon, ordered from San Francisco, to Manhattan, Nev, for annulment of contract

Jones G B contract surgeon, ordered from San Francisco, to Ft. George Wright, Wash, for duty

Johnson, C W, contract surgeon, ordered from Ft Des Moines, Iowa, to field duty in South Dakota

Hart, W L, contract surgeon, ordered to temporary duty at Washington Barracks, in addition to his duties at A G H, Washington D C.

Whinnery, J C dental surgeon, left Vancouver Barracks, Wash, for duty at Ft Worden, Wash, will subsequently visit in succession Ft Flagler, Wash, Ft Casey, Wash, and Ft Ward, Wash

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the seven days ended July 1, 1908

Geddings, H D, asst surgeon general directed to proceed to Philadelphia, and Reedy Island Quarantine Station, for special temporary duty, on completion of which to rejoin his station at Washington, D C

Gassaway J M, surgeon directed to proceed to Reedy Island Quarantine Station for special temporary duty, on completion of which to rejoin his station at Philadelphia

Wertenbaker, C P, surgeon, granted leave of absence for 3 days, from July 1, 1908

Oakley, J H, P A surgeon, granted leave of absence for 4 days

Lavinder, C H, P A surgeon, leave of absence granted for 4 days, from June 16, 1908, amended so as to grant him leave of absence for 3 days only

Hobdy, W C, P A surgeon, relieved from duty on examining board, San Francisco, July 6 1908

King, W W, P A surgeon detailed as recorder of examining board, San Francisco, July 6, 1908

Goldberger, Joseph, P A surgeon directed to proceed to Baltimore, Md, for special temporary duty on completion of which to rejoin his station at the Hygienic Laboratory, Washington, D C

Goldberger, Joseph, P A surgeon, directed to proceed to Alexandria, Va, for special temporary duty, on completion of which to rejoin his station

Roberts, Norman, asst surgeon, granted extension of leave of absence, for 3 days, from July 1, 1908

Salmon, T W, asst surgeon, granted leave of absence for 7 days, from June 28, 1908, under Paragraph 191, Service Regulations

Drew, A D, acting asst surgeon, granted leave of absence for 30 days, from July 3, 1908, without pay

Friedman, H M, acting asst surgeon, granted leave of absence for 28 days, from July 5, 1908

Gray, Geo E, acting asst surgeon, granted leave of absence for 5 days, from June 22, 1908

Onuf, B, acting asst surgeon, granted leave of absence for 2 days, from June 20, 1908, on account of sickness

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service, during the week ended July 3, 1908

SMALLPOX—UNITED STATES

Alabama: Huntsville, June 5 18, 85 cases; Mobile, June 7 13, 1 case

Arkansas Texarkana Dec 1 June 15 present
California Los Angeles, June 7 30 3 cases, Oakland, May 1 31, 12 cases, San Francisco, June 6 20, 11 cases
District of Columbia Washington, June 16 20 7 cases
Illinois General, May 1 31, 288 cases, Chicago, June 14 20, 4 cases
Indiana General, April 1 30, 293 cases
Kansas General, April 1 30, 432 cases, Kansas City, June 8 15, 3 cases, Topeka, 3 cases
Kentucky Covington, June 21 27 3 cases
Louisiana New Orleans, June 14 20 6 cases
Missouri Conway, April 20 June 19 29 cases, Kansas City, June 14 20 2 cases, St Louis, 1 case, St Joseph, June 7 20, 9 cases
Nebraska Friend, April 13 June 18, 13 cases, South Omaha, June 7 13, 1 case
New York New York City, June 14 20, 1 case, Niagara Falls, 1 case
North Carolina General, April 1 30, 161 cases
Ohio Cincinnati, June 20 26, 4 cases, Dayton, June 14 20 4 cases
Tennessee Nashville, June 14 20, 1 case
Texas Fort Worth, May 1 31, 9 cases, San Antonio, June 1 20, 2 cases
Utah General, May 1 31 33 cases
Virginia Alexandria, June 25 27, 13 cases
Washington Spokane, June 7 20, 25 cases, Tacoma, June 8 14, 1 case
Wisconsin La Crosse, June 16 20, 4 cases

SMALLPOX—FOREIGN

Arabia Aden, May 28 June 1, 2 deaths
Austria Galicia, May 24 30, 1 case
Brazil Rio de Janeiro, May 11 24, 364 cases, 153 deaths, Santos, May 3 10, 8 cases, 1 death
Canada Nova Scotia—Halifax, June 14 20, 6 cases
Ceylon General, April 1 30, 2 deaths
China Hong Kong, May 10 16, 3 cases, 1 death, Shanghai, May 3 24 4 deaths
Egypt General, May 4 20, 77 cases 10 deaths, Cairo, May 30 June 3, 6 cases, 2 deaths, Suez, May 6 20, 5 cases
Formosa May 2 9, 1 case
France Paris, May 31 June 6, 1 case; Marseille, May 1 31, 2 deaths
Great Britain Liverpool, April 30 June 6, 1 case
India Bombay, May 20 26, 31 deaths, Calcutta, May 10 16, 16 deaths
Italy Catania, May 22 June 11, 1 death; Naples, May 31 June 6, 2 cases, Palermo, May 24 June 6, 7 cases
Japan Nagasaki, May 17 24, 1 case, Osaka, May 10 16 20 cases, 17 deaths
Java Batavia, May 10 16, 3 cases
Mexico Aguas Calientes June 8 14 3 deaths, Mexico City, June 10 16 10 deaths, Monterey, June 8 14, 1 death
Philippine Islands Manila May 3 June 9, 11 cases, 4 deaths
Russia St Petersburg, May 17 30, 49 cases, 12 deaths, Warsaw, April 25 May 9, 2 deaths
Spain Barcelona, June 1 10, 1 death, Valencia, June 1 6 17 cases
Turkey in Europe Constantinople June 1 7, 7 deaths

CHOLERA

India Bombay, May 20 26 1 death, Calcutta, May 10 16, 109 deaths, Madras, May 16 22, 3 deaths
Straits Settlements Singapore, May 10 16, 1 death

YELLOW FEVER

Brazil Manaos, May 26 30, 2 cases, 2 deaths; Para, May 31-June 6, 4 cases, 4 deaths

PLAGUE

Brazil Rio de Janeiro, May 11 17, 4 cases
China Hong Kong May 10 16, 88 cases, 65 deaths
India General, May 9 16, 6 720 cases 5,708 deaths, Bombay, May 9 26, 148 deaths, Calcutta May 9 16 69 deaths
Japan Formosa, May 2 23, 357 cases, 272 deaths
Peru Callao, May 23 30 2 cases, 1 death
Siam Tongkah, May 4, present
Trinidad to June 11, 6 deaths
Turkey in Asia Bagdad, June 7 13, 10 cases, 9 deaths
Venezuela Caracas, June 10 12 5 cases, 1 death, La Guaira, June 16 19, 5 cases, 1 death

Association News

DATE OF NEXT SESSION.

Announcement of the Date of the Next Annual Session at Atlantic City Next June.

The next annual session of the American Medical Association will be held at Atlantic City, N. J, June 8 to 11, 1909.

NEW MEMBERS.

The following is a list of new members of the American Medical Association for the month of June, 1908 Names marked with stars or daggers are of those who became members at the Chicago session; the dagger indicates that the name so marked was previously on the subscription list

ALABAMA

Coleman, S L, Uniontown.
*Copeland, M A, Birmingham
Wilkinson J G, Catherine
†Wyman, B L, Birmingham

ARIZONA

Ayer, Ira, Cochise County.

ARKANSAS

*Dickson, H N, Paragould
Lloyd, C J, Harrison
*Grammer, J B, Searcy
Isom, Alphonso Gould
†Williams F M, Hot Springs
*Wood, T F, Uniontown

CALIFORNIA

Bine, Rene, San Francisco
*Briggs, C A, Pasadena
*Crabtree, H T, San Francisco
Eckardt, A O, Gualala
Fisher, C V, Antioch
†McCarty, I. A, Los Angeles
Nicholls, R J, San Francisco

COLORADO

*Herrick, J C, Denver
Melvin, W G, Ouray
†Pattee, J. J, Pueblo

CONNECTICUT

Clifton, H C, Hartford
Lowe, H R, Putnam
*Whittemore, E R, New Haven.

WASHINGTON, D C

Gannon J. A, Washington
Verbrycke, Jr, J R, Washington
Waring, J H, Washington

FLORIDA

†Pittman, J H, Jacksonville

GEORGIA

Burford, R E L, Brunswick
Cole, J E, Middleton
Harrington, A F, West Point.
†Matthews, M F, Athens
Respess, Herbert, Macon
Smith, S S, Athens

ILLINOIS

Adair, Sadie B, Chicago
†Albers, Anna, Chicago
Albright, I N, Chicago
†Alford, E T, Chicago
*Allen, T. G, Chicago
†Armstrong, Kate L, Kewanee
†Bacon, J V, Chicago
†Bailey, G L, Oak Park
†Bailey, H V, Pekin
†Baird, B D, Galesburg
Baker, G. J, Marion
†Balderston, S V, Evanston
†Baldridge, S T, Chicago
†Barnard, H. S, Chicago
*Baur, E F, Chicago
Bentele, Elizabeth, Chicago
†Bergeron, J Z, Chicago
*Biehn, J F, Chicago
*Blackburn, W. R Breeds
†Blakelidge, Rose M La Grange
Bonthius, F A, Chicago
†Booth, F H, Chicago
Bouton, W. C, Waukegan
†Bradley, E H, Peoria
†Brenner, F T, Quincy
†Breuer, E J, Shabbona
*Brian, J R, St Francisville
*Brodrick, F. W., Chicago
Brown, W C, Chicago
†Brucker, M W Chicago
Brownfield S T, Galesburg
†Burcky, W E, Chicago
†Burns, P T, Chicago
†Bush, Bertha E, Chicago
†Camp, F K Chicago
†Chancellor, P S, Chicago
†Chapin, C W, Weldon
*Chapin, H A White Hall
*Christie, Edmund, Chicago
†Christman, Paul, Kankakee
Church, Harry S, Modoc
†Clark, C P, Chicago
Clark, T H, Golconda
†Clark T. H, Chicago
*Cloyd, F N, Westville
*Cloyd, R A Catlin
Cody, J M, Tremont
*Collins, H O, Paloma
*Cook, C E, Mendota
*Corcoran, A L, Peoria
Coughlin, F J Aurora
†Coveny, M J, Spring Valley
Culbertson O J, E St Louis
†Cunningham, W J M, Chicago
†Curry, N D, Chicago
†Curtis W P, Chicago
Dale, G L A, Chicago
*Dale H W, McLeansboro
†Dahlberg, A V, Chicago
*Danford R C, Pana
*Deal, John, Riverton.
*DeVault, A N Chicago
*Dicus, J F, Streator
*Dods G D B, Chicago
†Donkle, L B, Chicago
*DuBois, W L, Chicago
Duntley, G S, Bushnell
†Dvorak, G M, Chicago
†Dyche, G B Chicago
*Eckard, E M, Peoria
†Einarson, B Chicago
†Ellingwood, C V, Chatsworth.
†Ellis, I B, Chicago.
Ennis, Matilda E, Chicago
*Epperson, J. C, Kansas
†Erickson, C A, Chicago
*Eskey, F. W, Tuscola
*Faith, Thomas, Chicago
†Folckemer, H R, Bowen
†Ford, E J, North Evanston
†Foreman, C B, Kane
†Fouser, Hiram, Harvey.
†First, F H, Rock Island
*Fisher, J. C, Decatur
*Fletcher W. R, Joliet
*Fricke, G. H, Park Ridge
*Gabel, H. G, Aurora
†Gillespie, E S, Wenona
*Gobble, H W., Greenfield
†Goldberg, J. B, Chicago
Gorrell, T J. H, Chicago
†Gowen, G A, Chicago
Grant, O P., Cantrall
†Grattan W. H, Shawneetown
*Gray, W. L, Champaign
†Green, T. S, Chicago
†Grimmer, C F Pekin
†Grulee, C. G, Chicago
Gunn Janet, Arlington Heights
*Halselden, Harry J, Chicago
*Haley, Richard Chicago
†Hall, E A, Henry
†Hammond, H R, Chicago
Harder, H P, Evanston
*Haushus J. W, Chicago
†Hayes, F C, Camden
†Heflin, H. N Kewanee
†Herrick, A D, Chicago
†Heym, A, Chicago
†Hickman, J. M Westville
*Hill, J H, Mechanicsburg
*Hillemeyer, W A, Chicago
Hirsch, S, LaSalle
Hoglund, E J, Chicago
Holmes, Jr Bayard Chicago.
†Holmes, E M, Chicago
†Holmes, P H, Chicago
†Hostetter, A, Rockford
†Ikemire, J A, Palestone.
*Illyes, L R, Flat Rock
*Jacobson, A F Chicago
†Jacque, J L, Chicago
James J M, Henning
†Jarvis, E T, Macomb
†Jenney, F L B, Chicago
†Johnson, J A, Dale
*Jolley, L B, Gurnee
†Jones, H O, Chicago
*Just, G H, Buckingham
*Karreman A R, Chicago
†Kelly, J W, Chicago
*Kemp, C H, Lacon
*Kepner, M F, LaClede
*Kidd, A. E., Quincy.
King C B, Chicago
Kirkland, J. A, Cambridge
*Klentgen, A C, Chicago
*Korb, M C, Chicago
Lacey, J H, Albion
†Lane, F H, French Village
†Langer, Carl, Chicago
†Lebensohn, M H, Chicago
†Lewis C J, Chicago
Lewison, M, Chicago
*Limmer G L, Peoria
*Lingle W E, Cobden
†Lipshulch G U Chicago
†Lockie, G D Pontiac
†Lorch G J, Chicago
†Lowenthal A A Kankakee
*Luken, M G, Chicago
Lundgren A E, Chicago
†MacCracken, W P, Chicago
†MacFarlane W A Chicago
†Maher T F, Chicago
*Markley, G W Kingston
*May, S R, Mt Zion
*Mayes, W E G Dawson
*McCord T C, Paris
*McFadden L A, Peoria
McIlwain, Jr Jas, Okawville
†McGibbon W P, Chicago
†McHugh Thos, Chicago
*McKinley J F, Chicago
*McLaughlin A W Chicago
†McQuarrie, J K, Chicago
†Merritt, Elsie R Princeville
Means T J Chicago
Mesirow, D B, Chicago.
†Meyers, I L, Chicago

*Midgett, J. E., Flat Rock.
†Miller, A. B., Chicago.
Miller, C. A., Macon.
†Mock, H. E., Chicago.
†Montgomery, James, Chicago.
*Moore, C. R., Chicago.
*Moore, F. B., Chicago.
*Moore, Willis, Chicago.
†Mundt, G. H., Chicago.
*Musselman, J. T., Paris.
†Myers, C. S., Chicago.
†Myrick, A. E., Park Ridge.
†Nauman, B. J., Peru.
*Newcomer, Irving, Petersburg.
Nicholson, J. M., Chicago.
†Noble, Thos. A., Harvey.
Ogden, E. J., Chicago.
†O'Neill, J. W., Chicago.
†Packard, T. I., Lanark.
Palmer, M. J., Beardstown.
†Pattillo, R. S., Chicago.
Paulson, A. T., Chicago.
†Petersen, H. A., Dundee.
†Pierce, G. F., Chicago.
†Plummer, W., Farmington.
Poehls, J., Chicago.
†Pratz, F. D., Moweaqua.
*Prince, J. A., Springfield.
Purves, A. M., Des Plaines.
†Rabe, W. L., Dwight.
†Ransmeier, R. E., Chicago.
†Redman, F. E., Chicago.
Reeder, W. G., Chicago.
*Reilly, Joseph, Chicago.
†Reinhardt, H. G. W., Chicago.
†Rembe, Reinhard, Chicago.
†Reynolds, G. W., Chicago.
Ricardo, D. E., Chicago.
†Riebel, E. C., Chicago.
†Rikli, A. R., Naperville.
*Reno, C. G., Streator.
Ritter, M. M., Chicago.
*Roane, J. Q., Carlyle.
Roberts, E. E., Mount Erie.
Rogers, A. E., Bloomington.
Rohrback, O. H., Chicago.
†Rudnick, Fred, Chicago.
Rudolphi G. W., Elliott.
*Ryan, Lawrence, Chicago.
†Ryman, H. D., Vernon.
†Sahud, Moses, Chicago.
*Sandy, T. H., Chicago.
†Schachter, J., Chicago.
Schaubel, G. M., Chicago.
Schenck, W. E., Pekin.
Schoenberg, A. J., Chicago.
†Schaffer, W. J., Chicago.
†Schmitz, Henry, Chicago.
*Schram, A. W., Chicago.
*Schreiber, G. F., Chicago Heights
†Schroeder, G. H., Chicago.
†Schurtz, Carl, Streator.
*Scott, C. C., Princeton.
*Selby, E. H., Chicago.
Servoss, A. G., Havana.
Shaw, D. Lee, Chicago.
†Siebel, Jr., J. E., Chicago.
†Sloo, M. G., Chicago.
Smith, C. G., Chicago.
*Stearns, L. M., Oak Park.
Stiers, F. L., East Peoria.
Stevens, J. H., Wing.
†Stober, A. M., Chicago.
*Stoeffhaas, L. C., Chicago.
*Stokes, W. F., Chicago.
Stone, C. A., Belvidere.
†Storck, Wm., Chicago.
†Strauss, D. C., Chicago.
Streich, E. A., Chicago.
Sultan, George, Chicago.
Taylor, I. H., Springfield.
*Thornton, C. M., Elkville.
*Timerman, H. E., Chicago.
Timmerman, E. V., Chicago.
*Titzel, W. R., Chicago.
*Trueblood, R. R., Lawrenceville.
†Van Dellen R. L., Chicago.
†Van Hoosen, Bertha, Chicago.
*Wade, C. A., Chicago.
*Walker, T. E., Gifford.
Wallace, H. R., Chicago.
†Waller, J. D., Oak Park.
†Walsh, J. H., Chicago.
†Walters, C. H., Springfield.
Wardle, H. W., Chicago.
†Waterman, S. A., Chicago.
*Waterman, W. M., Chicago.
†Watson, J. B., Litchfield.
†Waugh, J. F., Chicago.
*Wedel, Gustav, Chicago.
†Werelius, Axel, Chicago.
†West, W. B., Chicago.
Whamond, A. A., Chicago.
Wharton, J. F., Homewood.
†Wicks, Seth, Chicago.
White, J. C., Seatonville.
*Wickland, C. A., Chicago.
*Wikoff, C. P., Emington.
*Wilcox, C. A., Amboy.
†Wissig, S. L., Chicago.
*Wistein, Rosina R., Chicago.
†Woods, A. W., Morgan Park.
†Woodworth, S. A., Park Ridge.
Woof, J. T., Chicago.
†Wright, N. A., Manito.
†Wynekoop, F. E., Chicago.
*Yeates, W., Bonfield.
†Zoller, C. H., Granite City.

INDIANA.

*Austin, F. H., North Madison.
Biddle, F. M., Battle Ground.
†Borley, E. R., South Bend.
Bounnell, H. M., Waynetown.
†Bradfield, John, Logansport.
†Brokaw, R. E., Portland.
*Buchanan, W. A., Hammond.
Callane, M. D., Flora.
*Carnelley, J. H., Kokomo.
Chittick, A. J., Burlington.
*Clevenger W. F., Indianapolis.
†Cochran, R. W., Madison.
Collier, T. E., Brook.
*Cromer, L. G., Union City.
*Darroch, W. P., Cayuga.
†Dewey, F. U., Elkhart.
†Dielman, F. C., Fulton.
*Dobbins, A. O., Wheeler.
Domer, W. A., Sabash.
Egan, B. W., Carroll.
†Englerth, P. O., North Judson.
Evans, H. M., Valparaiso.
Fargher, J. H., Laporte.
Finney, C. J., Attica.
†Frost, R. F., Huntington.
†Gilson, E. A., Covington.
*Grim, G. B., Oakland City.
*Hackley, R. P., Medaryville.
†Hagenbaugh, E. J., Elkhart.
*Hamilton, Allen, Fort Wayne.
†Hays, Woodward, Albion.
Hill, H. B., Logansport.
†Hobbs, Alice L., Indianapolis.
Hunn, M. F., Shipshewana.
*Hunter, T. E., Versailles.
Ingalls, A. T., Elkhart.
*Jones, J. F., Hammond.
†Jones, J. J., Medaryville.
Jones, M. C., Converse.
*Kremer, N. A., Madison.
Leiter, W. S., Claypool.
†Lent, E. J., South Bend.
Levering, G. P., Lafayette.
*Loomis, Chas., Vevay.
*Lorenz, J. W., Evansville.
†McCaslin, C. N., Earl Park.
†McConnell, Joseph, Terre Haute.
*McDonald, W. B., New Augusta.
†McKeeman, R. B., Fort Wayne.
†Miller, C. A., Princeton.
Milligan, J. W., Michigan City.
†Miranda, W. F., Walkerton.
*Mitchell, E. E., Bedford.
*Morris, J. E., Indianapolis.
†Mumford, E. B., Indianapolis.
Nebeker, Eva, Covington.
†Peck, W. M., South Bend.
*Perry, C. H., Lewis Creek.
Perry, Ira E., Bippus.
†Packard, C. W., Gary.
*Payne, A. T., Terre Haute.
Peter, E. L., Flora.
*Poland, U. G., Muncie.
†Powell, N. B., Marion.
†Proudfit, L., Osceola.
†Radcliffe, F. E., Bourbon.
†Redding, J. L., Bluffton.
*Robison, Elwood, Rossville.
*Robison, J. E., Frankfort.
†Ross, David, Indianapolis.
Saalman, J. E., Eckerty.
*Sanders, I. M., Greensburg.
*Shafer, Winfield, Rochester.
*Shepherd, G. W., Red Key.
Shoaf, F. A., Veedersburg.
*Shultz, J. B., Logansport.
†Snyder, J. W., Michigan City.
†Spear, R., East Chicago.
*Sprowl, J. S., Warren.
†Strange, J. W., Loogootee.
*Stormont, R. M., Stewartsville.
†Swezey, H. N., Marion.
†Taviner, R. Q., Huntington.
†Taylor, J. E., Leopold.
Thompson, N. H., Wabash.
Vandivier, H. R., Clay City.
†Van Kirk, G. H., Kentland.
Van Reed, Earl, Lafayette.
Wagner, E. P. South Bend.
*Whitlatch, Bine, Pierceville.
*Wood, H. D., Angola.
†Work, Jr., J. A., Elkhart.
†Yocum, M. G., Mentone.

IOWA.

Acher, A. E., Ft. Dodge.
†Applegate, C. F., Mt. Pleasant.
Arthur, W. R., Greene.
†Bamford, E. E., Centerville.
*Barnes, F. L., Oskaloosa.
*Beardsley, D. E., Cedar Rapids.
†Becker, W. L., Dubuque.
†Bliss, C. S., Renwick.
*Bowman, E. S., Davenport.
†Brandt, G. C., Denison.
*Brewer, M. T., De Soto.
†Brinkman, J. E., Waterloo.
Brownson, J. D., Monona.
†Calbreath, C. B., Lineville.
†Carr, C. W., Denison.
†Chase, C. S., Iowa City.
†Cobb, H. A., Dunlap
†Conmey, R. M., Sergeant Bluff.
*Crilley, B. H., Dallas Center.
*Daly, J. J., Charles City.
*Dean, W. F., Osceola.
†Dodds, W. E., Richland.
*Duffin, W. L., Guttenberg.
*Engle, Perry, Newton.
*Ficke, E. O., Davenport.
*Fitz Jerrell, H. B., Elkport.
†Gillespie, H. S., Mapleton.
Gleason, B. F., Arthur.
†Harris, W. A., Centerville.
†Hill, M. W., Mt. Vernon.
*Hurst, W. N., Ottumwa.
†Jeffries, W. G., Leon.
*Johnston, T. H., Spencer.
†Jones, C. R., Griswold.
†Kellogg, O. A., Blairsburg.
†Kirschner, H. E., Iowa City.
†Kisor, F. H., Kalona.
†Klein, J. L., Muscatine.
†LaForce, E. F., Burlington.
Lamboch, Frederick, Davenport.
*Leir, C. N. O., Des Moines.
†Lewis, Byron, Jewell Jct.
Lewis, S. J., Columbus City.
*Mammen, G. H., Le Mars.
*Matthey, Carl, Davenport.
*McCray, W. R., Rockford.
McGlone, F. E., Mason City.
†McKane, J. W., Lawler.
*McLaughlin, P. B., Sioux City.
†McMillan, E. C., Hudson.
†Miller, G. E., Sanborn.
*Minassian, H. A., Des Moines.
*Minthorn, M. F., Castana.
*Myers, E. M., Boone.
†Newell, F. W., Ottumwa.
Newell, W. C., Ottumwa.
†Page, A. C., Des Moines.
*Parriott, R. P., Des Moines.
*Payne, J. E., Richland.
†Pearson, Wm. W., Des Moines.
Peters, J. A., Oxford.
*Peters, R. A., Tipton.
†Pyles, R. H., Hudson.
*Quinn, Edw., Martinsburg.
†Rayner, H. W., What Cheer.
Schmidt, B. H., Davenport.
*Sherbon, J. B., Colfax.
[illegible] loo.
[illegible] City.
†Smith, S. J., Iowa City.
†Starr, C. F., Mason City.
*Steinle, H. F., Burlington.
Sterns, W. L., Mason City.
†Storie, Jr. D. Q., Chariton.
Swale, C. M., Mason City.
†Tallman, C. C., Fairfield.
†Thielen, M. H., Grundy Center.
†Thompson, Benj., Tama.
Tilden, W. C., Stanwood.
*Tinley, M. A., Council Bluffs.
Wanamaker, E. E., Hamburg.
West, G. H., Armstrong.

KANSAS.

Ball, S. E., Mapleton.
*Carlile, J. B., Leon.
†Cornell, H. M., Kansas City.
*Davis, J. E., Ottawa.
*Gardner, M. N., Greenleaf.
*Glasscock, S. S., Kansas City.
†Jones, L. L., Altoona.
Moberg, Arthur, Pittsburg.
†Patton, C. L., Olpe.
†Poole, J. G., Kansas City.
*Sams, L. V., Topeka.
†Von Trebra, R. L., Chetopa.
Wetherbee, Chas., Edna.

KENTUCKY.

*Armstrong, M. W., Olive Hill.
*Arthur, Macaulay, Middlesboro.
*Clifford, C. M., Cynthiana.
*Duvall, H. C., Millwood.
*Givan, S. L., Spring Lick.
*Gower, C. M., Trenton.
*Green, J. T., Litchfield.
*Jones, J. C., Buffalo.
†Kelsall, O. H., Louisville.
*Moss, M. M., Franklin.
Pace, J. E., Scottsville.
*Reynolds, J. F., Mt. Sterling.
†Wheeler, C. L., Lexington.
*Zaring, A. M., Smithfield.

LOUISIANA.

†Allen, C. W., New Orleans.
Haspel, M. D., New Orleans.
McGrane, C. J., New Orleans.

MARYLAND.

Dudley, N. S., Church Hill.
Perkins, E. S., Baltimore.
Rollins, C. D., Baltimore.

MASSACHUSETTS.

Bowman, F. R., Boston.
Champion, M. E., Arlington.
Van Nuys, F., Weston.
Wardwell, J. K., Boston.

MICHIGAN.

†Baird, T. A., Bay City.
†Boys, C. E., Kalamazoo.
*Braden, G. M., Scotts.
†Brown, R. W., Bay City.
†Cahill, L. L., Mendon.
†Cameron, W. C., White Pigeon.
†Chivers, R. W., Jackson.
†Chopoton, E. A., Detroit.
*Cooper, E. M., Carleton.
†Cummings, R. B., Wayne.
Crary, G. H., Ann Arbor.
De Kraker, J. M., Grand Rapids.
†Dodge, W. H., Hancock.
*Foster, R. F., Bear Lake, Mich.
†Frazier, H. H., Allen.
†Garner, G. L., Lansing.
†Gauntlett, J. C., Elk Rapids.
*Gauss, C. B., Palo.
†Gubbins, R. M., Ceresco.
*Hagadorn, A. D., Lansing.
†Hoover, Harold, Alamo.
Howard, J. J., Detroit.
*Kassabian, M. H., Coopersville.
Leitch, A. E., Saginaw.
†Libby, E. M., Iron River.
*Merriman, H. H., Grayling.
†Miller, G. D., Cadillac.
Miller, H. C., Hillsdale.
*Moore, G. W., Munger.
Morse, Jason, Pontiac.
†Mortensen, M. A., Battle Creek.
Newark, W. E., Charlotte.
Paterson, E. W. E., Grand Rapids.
Patrick, O. H., Port Huron.
*Pratt, C. G., Sparta.
Rice, E. D., Flint.
†Rowe, B. B., Saginaw.
†Sherman, G. H., Detroit.
†Simpson, H. L., Detroit.
†Stephenson, F. T. F., Detroit.
*Stevenson, A. T., Bay City.
†Stewart, L. H., Kalamazoo.
†Swantek, C. M., Bay City.
*Upjohn, W. E., Kalamazoo.
Vaughan, Cecil, Detroit.
†Vennema, H. A., Menomonee.
†Walker, R. A., Menomonee.
†Williams, A. H., rand Rapids.
†Youngquist, O. G., Marquette.

MINNESOTA.

*Blacklock, S. S., Hibbing.
†Boleyn, E. S., Stillwater.
Corbett, J. F., Minneapolis.
†Cremer, M. H., Red Wing.
†Crume, G. P., Minneapolis.
Donnelly, I., St. Paul.
†Eklund, J. J., Duluth.
†Fahey, E. W., Duluth.
*Fleming, James, Cloquet.
†Freeman, C. D., St. Paul.
Jones, E. M., St. Paul.
Larson, L. A., Montevideo.
*MacCarty, W. C., Rochester.
*Malchow, C. W., Minneapolis.
†Matthews, Justus, Rochester.
Mitchell, F. J., Richland Center.
†Olander, J. E. E., St. Paul.
*Parker, E. H., Minneapolis.
Peddicord, Harper, St. Paul.
*Rollins, F. H., St. Charles.
†Schneider, J. P., Green Isle.
†Stacy, Leda J., Rochester.
†Taylor, C. U., Duluth.
†Watson, J. A., Minneapolis.
†Wheat, F. C., Marshall.
*Whiting, A. D., St. Cloud.
*Williams, John, Lake Crystal.

MISSISSIPPI.

*Day, E. C., Bay St. Louis.
Kohlheim, Louis, Booneville.
†Shands, H. R., Jackson.

MISSOURI.

*Beckham, Genevieve S., St. Louis
*Bellows, G. E., Kansas City.
Banker, O. H., St. Louis.
*Burke, C. L., Kansas City.
†Child, S. P., Kansas City.
†Coffey, W. H., Kansas City.
*Epperly, R. G., Prairie Hill.
Esselbruegge, F. C., St. Louis.
*Fergerson, J. W., St. Joseph.
*Gray, A. L., St. Joseph.
†Hale, J. W., Greenville.
†Harris, D. L., St. Louis.
*Humfreville, D. L., St. Joseph.
Kern, B. C., St. Louis.
*Kessler, S. F., St. Joseph.
†Leavy, C. A., St. Louis.
*McKillip, O. L., Kansas City.

McMurry, M C, Paris
*Neel, C. S., Springfield
Newman S A, Cassville
*Owens, M J, Kansas City.
†Parce, A D St Louis
Parker, H. F, Warrensburg
*Payne, H C, Paris
†Redwine, J. T, Doniphan
†Roselle, T A, Palmyra
*Sanford, S, Palmyra.
*Schmid W F, St Joseph
*Sheley, O C, Independence
*Smith, J D Shelbina
*Smith, W P Troy
*Sneed, C. M, Jefferson City.
*Straus, Leon, St Louis
*Swahlen, P. H St Louis.
*Tout B B, Archie

NEBRASKA

*Demaree, E W, Roca
†Dunn, A D, Omaha
‡Farley, B F, York
Fuller, J A Jr, Uehling
*Graham, F H, Lincoln
†Hollister, R R, Omaha
†Impey, Charles, Omaha
*Ira, G. B, Lynch.
Lemar, F. A, Newman Grove.
†Miller C J, Ord
*Oelke, E H, Pierce
Rhoden, R H, Fremont.
Sachs, A, Omaha
*Shaw, L M, Osceola

NEW HAMPSHIRE

*Abbott W. H Hillsboro
Kelso, W. L, Hillsboro

NEW JERSEY

Carter, Helen L, Newark

NORTH CAROLINA

*Battle J T J Greensboro
Caldwell, M M, Wilmington
*Cotton, C E, Black Mountain
Griggs W T Poplar Branch
Kapp, H. H, Winston Salem
Kirkpatrick, L R Maxton

NORTH DAKOTA

†Rindlaub, M P, Jr Fargo
†Westley, M D, Cooperstown

NEW YORK

Bachmann, G W, Rochester.
Brown, A J, Rome.
Bentz, G H, Brooklyn
Daly, W S, Ogdensburg
*Dowd P M, Oswego
†Dwyer, W M, Amsterdam
Fabricius J R New York City.
*Fairbairn J F, Buffalo
Foster, A B, Fonda
Foster, J B Webster
Hazen, Roland Brentwood
*Hicks, J. S, Allegany
Judson, C H Dobbs Ferry
Junge, B W New York City
Le Fevre, Caroline H, Brooklyn.
†Ogilvy, Charles, New York City.
O Mara, T J, New York City
†Shirk, G W, Cornwall on Hudson
Sill W M Jameston
Soble N H, Elmira
*Stewart, C M, Hume
Torrey, Edward, Olean
Travell, C H, Troy
†Van Bender, J L Penn Yan.
†Wright, Thew, Buffalo

OHIO

Allaman, W F, Dayton
Allen, F Y, Cleveland
†Bausman, S M Pleasant Hill.
Bounds, H L, Carroll
†Brewer, L A, Toledo
†Bull, Maud L, Marion
Buxton J W, Howard
Cox H C, Napoleon
†Davidson, H S, Barberton.
Deam, J M, Vandalia
*Dunton, O H, Circleville
†Eastman W H, Fredericktown.
Elliott, R W Cleveland
†Fry, R. D, Cleveland
†Grubb, E W, Payne
Haefele, G L, Cleveland
Handmacher B B, Cleveland
*Hart, W E, Elyria
Hays, C J, Akron
Helleman, J H Waynesfield.
†Heimlich, Daniel Cleveland.
*Hill, W C Cleveland
Holmes, E S, Plain City.
Howland, J S Plain City.
Huggins, T A, Sparta
Jones, G H, Toledo
Kohler, A A, Akron
†Kramer, J D Dayton
Lavanture, L A Buckeye City
†Lee R N Mt Blanchard
McDowell J R, Zanesville
†McKendree, M. A, Bowling Green
*McKibben, J T, Cincinnati
McKinzie, C D Lancaster
McNamara, F X, Cleveland
McVety, A F, Toledo
†Miller, J. C, New Bavaria
*Neal, C A, Norwood
Pinkerton, W L, Galloway.
Portmann, O E, Canton
Postle R A Ashville
Rowers, H G, Chickasaw.
Reed F E, Cavett
*Richards C C, Bellevue
Richardson, F A, Huntsville
Rickey, L D, Chillicothe
Roller, W C, Willshire
*Ross, C H, Alliance
Sauer, W W, Madisonville
Shuman, J C, Akron
Shook, J W, Canal Winchester.
‡Silver, Harry, Hamilton
Sloan, H G Cleveland
Stadler, C E, W Cairo
Stamm, John, Jacksonville.
Stone, C W, Cleveland
Taggart, H D Akron
†Todd, H D, Akron
Trout, G B, Duncan Falls
†Underwood, E S, Akron
†Van Fossen, J A Columbus
Waldron, L P, Akron
Welch, Mina G, Columbus.
Wilson, W A, Gahanna
Yoder, H E, Cleveland

OKLAHOMA

*Bolton, W D Clinton
Childs, H C, Noble
Diehl, C H, Purdy
Hinson, T B Thomas
Marshall, J W, Shawnee
†Mraz, J Z Prague
Rogers, F W
†Rogers, McLain Geary
Vanderpool, J M, Calvin

PENNSYLVANIA

Allen, W H, Pittsburg
Auchmuty J E Marvd
Beck, J M, Alexandria
Blair H A, Curwensville
†Blair, A C, Pittsburg
Craig, Ford B, Pitcairn
Crosby, W S, Philadelphia
†Edwards Jr O M Pittsburg
†Jobson, G B, Franklin
Kriebel, Asher G, Lynnville
*McCready, E B, Pittsburg
†McDowell, H F, Franklin
*Murphy J C, York Haven
Nichols, H J, Bradford
Owens, C. K, Pittsburg
*Roth, A H Erie
Snodgrass, Bruce, Beaver Falls
Steinbock, F W Philadelphia
*Thompson, E V Franklin
West, S L, Philadelphia
Wood, W A, Philadelphia

RHODE ISLAND

Porter, L B, Providence

SOUTH CAROLINA

Wannamaker, T. E Jr Cheraw.
Baker, Mary R, Columbia

SOUTH DAKOTA

†Ferguson, W. J, Milbank
*Foxton J L, Huron
*Freeburg H M Watertown.
†French, H E, Vermillion.
†Mead, L C, Yankton

TENNESSEE

*Caldwell, B D, Milan.
*Eve, Duncan, Nashville.
Green, J H, Trimble
*Jones, G R, Orlinda.
*King, J M, Nashville
Overton, John, Nashville
Rogers, K E, Ducktown.
*Sifford, W. R, Nashville.
†Swink, W. T, Milan
Witt, W H, Nashville
*Wood, E G, Nashville.

TEXAS

Dycus, Earl, Juno
*Jackson, R R, Dallas.
Leach, R. W, Bighill
Mayo O N McDade
Ruhl, J. H., Galveston.
Schultz W M Georgetown.
Silver C M, Alvard

VIRGINIA.

Bosher, R S Jr, Richmond
Connelly, E H, Alberta
Kellam, W F, Onley.

WASHINGTON.

Lazelle, H G, Seattle

WEST VIRGINIA

*Barlow, C A Benwood
*Bush, A B, Weston
*Holden W H, Clarksburg.
Taylor, E R, Bemis

WISCONSIN.

†Bear, W G, Monroe
*Blackbourn, F. E, Beetown.
*Brett, F. N, Green Bay.
Brockway, F., Oshkosh
*Cavaney, James, Milwaukee.
*Donohue, M. J., Antigo
*Edwards, W M, Manston.
*Ehlert, E H., Hartford.
*Greenwood S D Neenah
†Fosse, Benj, Beloit.
Hopkins, F. G, Valders
‡Hopkinson, Daniel, Milwaukee
†Hong, H J., Cudahy.
Huntington, S D, Green Bay
*Hyslop, F R, Whitewater
Kelsey, Kate, Cable
†Malone, F A Waterford
Matter, L E, Lake Geneva
*Moore, E E, Merrillan
Nott, G. W, Racine
Olsen, A K, Ettrick.
‡Parke, Geo, Sylvan
*Schoen, R E, Beaver Dam.
†Schwendener, J Milwaukee
†Spears, T. R, Washburn
‡Searle, C. H, Palmyra.
‡Stirn, F. J., Cudahy.
†Sweetman, R. H., Green Bay
†Tarnutzer, B C, Beaver Dam
*Walbridge T S, Berlin
*Wallace, Chas Chippewa Falls
*Wells, A. L, Clear Lake
*Wintermute, C. E, Kilbourn

WYOMING.

Fox, G. A, Cheyenne

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEW MEXICO Board of Health and Medical Examiners, The Capitol, Santa Fe, July 13-14. Secretary, Dr. J A Massie, Santa Fe

ARKANSAS Regular Board of Medical Examiners, State Capitol Bldg, Little Rock, July 14. Secretary, Dr. F. T. Murphy, Brinkley

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock, July 14 Secretary, P. C. Williams, Texarkana

ARKANSAS Eclectic Board of Medical Examiners, Little Rock, July 14 Secretary, Dr A. J. Widener, Little Rock.

CONNECTICUT Homeopathic Medical Examining Board New Haven, July 14 Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave, New Haven.

CONNECTICUT Eclectic Medical Examining Board, Hotel Garde, New Haven, July 14. Secretary, Dr. T S Hodge, 16 Main St, Torrington

CONNECTICUT Regular State Medical Examining Board, City Hall, New Haven, July 14-15 Secretary, Dr Charles A Tuttle, 196 York St, New Haven

DISTRICT OF COLUMBIA Board of Medical Supervisors, Washington, July 14 Secretary, Dr. George C Ober, 210 B St, S E. Washington

WEST VIRGINIA State Board of Health, Charleston, July 14-16 Secretary, Dr. H A Barbee, Pt Pleasant

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, July 14-16 Secretary, Dr. Edwin B Harvey, Room 159, State House, Boston

VERMONT State Board of Medical Registration, Burlington July 14-16 Secretary, Dr W. Scott Nay, Underhill

WISCONSIN Board of Medical Examiners, Park Hotel, Madison, July 14-16. Secretary, Dr J V. Stevens, Jefferson

NEW HAMPSHIRE State Board of Medical Examiners, State Library, Concord, July 15-16 Regent, Mr H. C. Morrison, Concord

Cincinnati Colleges Merge.

We are informed that the long contemplated merger between the Miami Medical College and the Medical College of Ohio, both of Cincinnati, has finally been consummated; the new college thus formed will be the Medical Department of the University of Cincinnati. Already extensive plans have been made to develop the school A professor of pathology is to be secured at a salary of $4,000 a year, who will also be in charge of the extensive laboratories at the Cincinnati Hospital The school will have full use of the clinical material of the Cincinnati Hospital, which at present has nearly 600 beds Within the next few years a new hospital is to be erected at a cost of about $3,000,000 This merger ends the rivalry which has existed between the two faculties for many years It is noteworthy that they have been willing to lay aside their differences, and even to make personal sacrifices in order that Cincinnati might have one strong medical college of high standard The new school should receive the support of the alumni of the two schools, as well as of the medical profession generally.

Errata in State Board Statistics.

Some errors in percentages occurred in the State Board Statistics published in THE JOURNAL, May 30, 1908. The percentage for Howard University in the 18th line, on page 1857, should be 23.5 instead of 41.2 The same correction should be made in Table K, on page 1846 On page 1844, in Table G, the percentage of failure for the University of Pennsylvania, "in other states," should be 1.6 instead of 6.2

Rhode Island Requires Graduation.

An amendment to the Rhode Island medical practice act provides that every applicant for license hereafter must hold a diploma from a reputable medical college and gives the board the right to refuse recognition to medical colleges which are not doing satisfactory work.

California April Report.

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners of the State of California, reports the written examination held at San Francisco, April 7-9, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 58, of whom 34 passed and 24 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Cooper Med. Coll.	(1907)	79
University of California	(1907)	79.2, 81.4
University of Southern California..(1906) 82.5;	(1907)	76, 80
College of P. and S., San Francisco..(1902) 75.2;	(1907)	78.6
California Med. Coll.	(1902)	75.7
College of P. and S., Los Angeles	(1907)	78.3
Gross Med. Coll.	(1891)	*76
Yale Medical School	(1894)	80.5
Georgetown University	(1900)	75.7
Northwestern University Medical School	(1904)	81.8
College of P. & S., Chicago (1906) 78.4;	(1907)	75, 81.1
Rush Med. Coll.	(1903)	75
Kansas Med. Coll.	(1892)	*75
Medical School of Maine	(1895)	*83.3
Harvard Med. School	(1906)	86.9
University of Michigan	(1903)	82.5
Detroit College of Med.	(1878)	*77.1
University of Missouri	(1897)	*74
Long Island Coll. Hosp.	(1905)	80.8
Eclectic Med. Inst., Cincinnati	(1891)	*78.1
Omaha Medical College	(1892)	*82.3
College of P. and S., New York	(1900)	80.4
New York Homeo. Medical College	(1902)	80.8
hiladelphia	(1904)	77.6
(1890) 79;	(1895)	82
	(1907)	77.7
McGill University, Quebec	(1902)	84.7

FAILED.

College.	Year Grad.	Per Cent.
College of P. and S., San Francisco. (1902) 61.6; (1906) 68.2, 71.8, 74; (1907) 53.4, 66.4, 73.7.		
University of Southern California..(1902) 66.6; (1904) 71.2; (1907) 73.6.		
Cooper Medical College (1903) 70.7;	(1907)	69.9, 70
College of P. and S., San Francisco	(1902)	61.6
Howard University, Washington	(1891)	30.4
University of Iowa	(1907)	72.6
Louisville Medical College	(1897)	71.6
University of Michigan, (1879) 82.6; (1891) 76.3;	(1892)	74.3
Barnes Medical College	(1904)	68.9
Miami Medical College	(1903)	70.6
Medical College of Ohio	(1871)	17.3
Nagasaki Medical College, Japan	(1902)	20.8

*Five per cent. to be added for each ten years of practice.

Georgia May Report.

Dr. E. R. Anthony, secretary of the Regular Board of Medical Examiners of Georgia, reports the written examinations held at Atlanta and Augusta, May 4-5, and May 5-6, 1908, respectively. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 80.

At the examination held at Atlanta, May 4-5, the total number of candidates examined was 96, of whom 87 passed and 9 failed. One candidate withdrew from the examination. The following colleges were represented:

PASSED.

College.	Year Grad	Per Cent.
Atlanta College of P. and S., (1908) 81, 82, 83, 83, 84, 84, 84, 84, 85, 85, 86, 86, 87, 88, 88, 88, 88, 88, 89, 89, 89, 89, 90, 90.		
Atlanta School of Medicine, (1908) 80, 80, 80, 81, 81, 81, 81, 82, 82, 82, 83, 83, 83, 83, 83, 83, 84, 84, 84, 84, 85, 85, 85, 85, 86, 86, 87, 87, 88, 89, 90, 90, 91.		
International Med. Miss. Coll.	(1908)	82
Tulane University of Louisiana	(1907)	87
University of Louisville	(1907)	84, 87
Kentucky University	(1906)	82
Baltimore Med. Coll.	(1907)	83
Baltimore University	(1904)	82
Leonard School of Medicine	(1906)	83
Western Pennsylvania Med. Coll.	(1894)	88
University of Tennessee	(1908)	85, 85
Chattanooga Med. Coll., (1896) 83; (1901) 83; (1903) 80; (1904) 80; (1907) 80.		
Meharry Med. Coll., (1906) 82; (1908) 82, 84, 84, 85, 85, 85, 85, 89, 92.		
University of Nashville	(1908)	82, 88
University of the South	(1904)	85
College of P. and S., Memphis	(1907)	81

FAILED.

College.	Year Grad	Per Cent.
Atlanta School of Med.	(1908)	73, 74, 77, 79
International Med. Miss. Coll.	(1908)	77, 79
Maryland Med. Coll.	(1906)	78
College of P. and S., Baltimore	(1890)	60
Central University, Medicine and Science, of New Jersey*		76

* This college is said to have been fraudulent and existed solely for the purpose of peddling diplomas. The charter was revoked in 1891.

At the examination held at Augusta, May 5-6, the total number of candidates examined was 36 of whom 33 passed and 3 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Medical College of Georgia, (1908), the grades of 80 and 81 were reached by one each, 82 by four, 83 by six, 84 by eight, 85 by two, 86 by four, 87 by two, and 88 and 93 by one each.		
Medical College of Indiana	(1897)	84
Medical College of South Carolina....(1892) 93;	(1908)	85

FAILED.

College.	Year Grad.	Per Cent.
Medical College of Georgia	(1908)	79
Gate City Med. Coll.	(1908)	76, 79

Louisiana May Report.

Dr. F. A. LaRue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, May 21-22, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 153 of whom 131 passed and 22 failed. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Birmingham Med. Coll.	(1908)	78
Atlanta College of Phys. and Surg..(1900) 82.6;	(1907)	81.6
Louisville Med. Coll. (1906) 76.2;	(1907)	80.4
Flint Med. Coll. (1908) 76.8, 79.8, 78.8, 81, 81.6, 83		
Tulane University of Louisiana, (1891) 82; (1902) 82.6; (1905) 76.8; (1906) 75; (1908) 76, 76.4, 78, 79, 79.6, 80, 80.4, 80.8, 80.8, 81, 81, 81.2, 81.4, 81.6, 81.8, 82.4, 82.8, 83.2, 83.4, 83.4, 83.6, 83.6 83.6, 83.8, 83.8, 83.8, 83.8, 84, 84.4, 84.6, 84.8, 84.8, 84.8, 85.2, 85.4, 85.4, 85.4, 85.6, 85.6, 85.8, 85.8, 85.8, 85.8, 86, 86, 86, 86, 86.2, 86.2, 86.4, 86.4, 86.8, 86.8, 86.9, 87, 87, 87.2, 87.2, 87.2, 87.6, 87.8, 87.8, 87.8, 88, 88.2, 88.4, 88.4, 88.6, 88.6, 88.8, 88.8, 89, 89, 89.4, 89.8, 90.2, 90.6, 91.2.		
University of Maryland	(1906)	84.4
Saginaw Valley Med. Coll.	(1902)	77.6
Leonard School of Med.	*(1908)*	84, *84.6*, 85.6
Meharry Med. Coll. (1907) 81;	(1908)	79.6
Memphis Hospital Med. Coll. (1907) 82.2; (1908) 78.4, 78.6, 78.6, 78.6, 80.6, 81, 81.6, 82.2, 82.2, 82.8, 83, 83, 83.6, 85.6, 87.6		
University of Nashville (1907) 84.6, 87.6; (1908) 77.8, 79.6, 82.4, *84.6, 88.6.*		
University of the South	(1907)	78.1
University of Tennessee	(1908)	82.2
University of Texas	(1907)	85.
College of P. and S., Dallas (1905) 78.8; (1908) 76.8,		77
University of Virginia	(1907)	86.8
University of Palermo, Italy	(1900)	92.2

FAILED.

College.	Year. Grad.	Per Cent.
Flint Med. Coll., (1902) 71.2; (1905) 66.6, 74.2,	(1908)	72.4
Tulane University of Louisiana.....(1901) 66.8;	(1908)	72.6
Dartmouth Med. Coll.	(1881)	68.2
Memphis Hosp. Med. Coll. (1893) 69.8; (1908) 66.6, 71.8, 70.4,		72.4
University of Nashville	(1908)	69.8
University of the South	(1907)	49.6, 64.2, 71
Meharry Med. Coll.	(1907)	69.1, 73.4
College of P. and S., Dallas (1908) 50, 56.8,		68.2
Medical Coll. of Virginia	(1905)	33.6

Idaho April Report.

Dr. W. F. Howard, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Cœur d'Alene, April 7-8, 1908. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 27, of whom 21 passed and 6 failed. The following colleges were represented:

PASSED.

College.	*Year Grad.*	*Per Cent.*
Denver and Gross College of Medicine	(1907)	78.9
Denver College of Medicine	(1888)	88
College of P. & S., Chicago..(1903) 79.8; (1906) 75.9	(1907)	79.5
Rush Medical College..(1893) 82.6; (1897) 75.8;	(1902)	89.3
National Medical University	(1905)	82.4
Kansas Medical College	(1895)	81.4
Kentucky School of Medicine......(1901) 83.7;	(1905)	80.4
Harvard Medical School	(1899)	83.7
University of Michigan	(1886)	92
Missouri Medical College	(1895)	75
Creighton Med. Coll.........(1905) 79.6, 84.8;	(1907)	78.5, 86.7
Woman's Med. Coll. of Pennsylvania	(1895)	83.1
University of Virginia	(1904)	75

FAILED.

Bennett Coll. of Ecl Med and Surg..	(1894)	53.1
Detroit College of Medicine	(1906)	69.4
College of P. and S., St. Louis	(1903)	68.1
Missouri Medical College..	(1894)	69.2
Barnes Medical College....	(1898)	2 3
Vanderbilt University	(1900)	62.7

Massachusetts May Report.

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at the State House, Boston, May 12-14, 1908. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 50, of whom 24 passed, including one non-graduate, and 22 failed, including 5 non graduates. The following colleges were represented:

PASSED.

College	Year Grad	Per Cent
Maryland Med. Coll	(1905)	79.4
University of Maryland	(1889)	75.2
Boston University	(1907)	75
Harvard Medical School	(1908)	77.7
Tufts College Medical School	(1900)	78.9
Dartmouth Medical College,	(1894) 79; (1907) 75; (1908)	75, 78.2, 78.5, 80.8
Albany Medical College	(1907)	75
New York Homeopathic Med Coll	(1902)	79.9
Bellevue Hosp. Med Coll	(1888)	82.7
Jefferson Med Coll	(1897) 76.5; (1907)	77.7
Woman's Med. Coll. of Pennsylvania	(1907)	81
University of Vermont	(1898)	79.5
Queen's University, Kingston, Ont.	(1902)	81
Laval University, Quebec	(1902)	75.
McGill University, Montreal	(1907)	75, 77
Dalhousie University, Halifax, Nova Scotia	(1903)	80.6
Nongraduate		79.4

FAILED.

College	Year Grad	Per Cent
Georgetown University	(1906)	72.5
Howard University, Washington	(1907)	71.6
American Med Miss Coll	(1906)	71.5
Chicago Homeo Med Coll	(1890)	62
Baltimore Med Coll	(1895) 43.3; (1902) 59.5; (1907)	69, 72.5
Baltimore University	(1904) 62.9, 68.2; (1907)	71.9
Tufts College Medical School	(1907)	60.6
College of P and S, Boston	(1905) 67; (1906) 61; (1907)	67.7
Laval University, Quebec	(1906)	67.4
Imperial Alexanders University, Finland, Russia	(1902)	69.7
Nongraduates		53.3, 64.6, 65.2, 68.6, 73.5

Illinois Medical Colleges in Good Standing.

The Illinois State Board of Health announces for the information of medical colleges, medical students and those who may be about to take up the study of medicine, that the following medical colleges in the state of Illinois are in "good standing" with the State Board of Health:

Bennett College of Eclectic Medicine and Surgery, Chicago
Chicago College of Medicine and Surgery (formerly the American College of Medicine and Surgery), Chicago
College of Physicians and Surgeons, Chicago.
Hahnemann Medical College, Chicago
Hering Medical College Chicago
Illinois Medical College, Chicago
Northwestern University Medical School, Chicago.
Rush Medical College, Chicago

At the meeting held June 23, the Illinois State Board of Health declined to reinstate the National Medical University in "good standing" and by unanimous vote reaffirmed the action of the board taken March 15 1907, when the National Medical University was declared not in "good standing"

Marriages

Virgil Abel, M.D., to Miss Mabel Boas, both of Vallonia, Ind., June 12.

Fonrose Lawson, M.D., Sullivan, Ill., to Miss Helen Greer of Gays, Ill., June 10.

C. C. Dougherty, M.D., to Miss Florence Meiklee, both of Philadelphia, June 17.

J. F. Cutler, M.D., to Miss Imogene Brigham, both of Philadelphia, June 19.

W. H. Liphert, M.D., to Miss Ida R. Lippincott, both of Philadelphia, June 17.

H. A. Ross Coppage, M.D., to Miss Mabel E. Fowler, both of Baltimore, June 18

Bert F. Gleason, M.D., to Miss Adeline S. Miller, both of Arthur, Iowa, June 20.

Charles E. Stauter, M.D., to Miss Sadie Wolfe, both of Baltimore, Md., June 6.

S. A. Shadrach, M.D., Baltimore, to Miss Sallie R. Brown, at Danville, Va., June 9.

George G. Taylor, M.D., Chicago, to Miss Ethel G. Hickok of Allegan, Mich., June 10.

Harlan Shoemaker, M.D., Philadelphia, to Miss Grace Clyde Gilman of New York City, June 4.

William Rudolph Boost, M.D., to Miss Mabel Wilson, both of Falls City, Neb., June 24.

David A. Baker, M.D., Bowman, N. D., to Miss Ollie Clark of Denver, Ill., recently.

John C. Jacobs, M.D., Spicer, Minn., to Miss Mattie Lien of Willmar, Minn., recently.

Henry McGuigan, M.D., Mazeppa, Minn., to Miss Catherine Zender of Austin, Minn., June 16.

Frank Barrows, M.D., Boise, Idaho, to Dessie B. Robertson, M.D., of Boulder, Colo., June 17.

John A. Freeman, M.D., to Miss Edna Marks, both of Beard, Ky., at O'Bannon, Ky., June 17.

William Preston Hoy, M.D., to Miss Eleanor Beverley Constable, both of Petersburg, Va., June 16.

William Fletcher Hall, M.D., Crisfield, Md., to Mrs. Clara J. Benson of Wilmington, Del., June 17.

Wiley Leon Whitehead, M.D., Lake City, S. C., to Miss Bessie Branch Keels of Lynchburg, S. C., recently.

Joseph Haskell Chiles, M.D., Oviedo, Fla., to Miss Ida Miller Howard of Pulaski, Va., in Jacksonville, Fla., June 17.

Deaths

Furman J. Shadd, M.D. Howard University Medical Department, Washington, D. C., 1881; a member of the Medico-Chirurgical Society of Washington, D. C.; for thirteen years assistant surgeon at the Freedman's Hospital, Washington; professor of materia medica and therapeutics, and secretary and treasurer of the Medical Department of Howard University; one of the most prominent colored practitioners of Washington; died at his home, June 24, as the result of a general nervous breakdown, after an illness of several months, aged 54.

Peter V. Burnett, M.D. New York University Medical College, 1876; of Brooklyn, N. Y.; a member of the Medical Society of the State of New York; physician to the Eastern Dispensary and Nose, Throat and Ear Hospital; who was under treatment in Mount Sinai Hospital, New York City, on account of overwork; leaped from the roof garden of the hospital, June 29, and was instantly killed.

John Gilman McAllister, M.D. College of Physicians and Surgeons in the City of New York, 1866; a member of the Massachusetts Medical Society; president of the Lawrence (Mass.) board of U. S. pension examiners; a veteran of the Civil War and a member of the consulting staff of the Lawrence General Hospital; died from heart disease, June 20, after an illness of six months.

James Park West, M.D. Medical College of Ohio, Medical Department of University of Cincinnati, 1882; a member of the American Medical Association and American Pediatric Society; United States pension examining surgeon at Bellaire, Ohio; a well-known specialist in diseases of children; died at his home in Bellaire, June 25, from facial erysipelas, after a short illness, aged 49.

George M. Walker, M.D. University of Tennessee, Medical Department, Nashville, 1888; a member of the American Medical Association; one of the oldest practitioners of Hamilton County, Tennessee, and for several years physician to the New Soddy Coal Company; died at his home in Soddy, Tenn., June 21, after an illness of two weeks, aged about 60.

John G. VanDeveer, M.D. Kentucky School of Medicine, Louisville, 1903; a member of the American Medical Association; formerly a practitioner of Fairland, Okla., and an interne in the City Hospital, Louisville; died in his room in Louisville, June 27, from multiple neuritis and heart disease, after an illness of five weeks, aged 32.

William M. Michel, M.D. Georgetown University School of Medicine, Washington, *D. C.*, 1870; for several years a physician at the Round Valley and Hoopa reservations: who was injured May 1 by a fall which caused paralysis; died at his home in Ferndale, Cal., as a result of his injuries, June 15. aged 68.

Daniel W. Lynch, M.D. Northwestern University Medical School, Chicago, 1875; a member of the American Medical Association; local surgeon at West Bend. Wis., for the Chicago & Northwestern Railway; died at his home in that city, June 25, after an illness of six weeks. aged 60.

Samuel B. Lightner, M.D. Jefferson Medical College. Philadelphia, 1863; a member of the American Medical Association; a member of the U. S. pension board of Clinton County, Ohio; and local surgeon of the Baltimore & Ohio Railroad at Sabina: died at his home, June 24. aged 68.

George W. Jones, M.D. Louisville (Ky.) Medical College. 1886; of Denham Springs, La.; a member of the Louisiana House of Representatives; was killed in the wrecking of a train at the crossing of the Baton Rouge and Hammond and Red River Valley Railroads, June 23.

Pelatiah Fitch, M.D. Jefferson Medical College, Philadelphia. 1862; assistant surgeon of the Eighth New Jersey Volunteer Infantry and surgeon of the Tenth New Jersey Volunteer Infantry during the Civil War; died at his home in Philadelphia. June 25, aged 66.

John S. Sullivan, M.D. Atlanta (Ga.) Medical College, 1891; a member of the American Medical Association. and one of the best known practitioners of Macon, Ga.; died at his home in that city, June 22, after an illness of several months, aged 58.

Henry Morris Raker, M.D. Jefferson Medical College, Philadelphia, 1862; of Augustaville, Pa.; died in the Mary H. Packer Hospital, Milton, Pa., June 19. from cerebral hemorrhage, after an illness of sevral days, aged 67.

James S. McNeel, M.D. Rush Medical College, Chicago, 1889; a member of the State Medical Society of Wisconsin; died at his home in Waterloo, June 20, from cerebral hemorrhage, after an illness of several days, aged 67.

James A. Lydston, M.D. Rush Medical College, Chicago, 1885; formerly professor of chemistry in the College of Physicians and Surgeons; died suddenly at his home in Chicago, July 6, from the effects of the heat, aged 47.

William Glasgow Condit, M.D. Chicago Homeopathic Medical College, 1900; Jefferson Medical College, Philadelphia, Pa., 1904; a member of the Iowa State Medical Society; died at his home in Allerton, June 20, aged 32.

John F. Daniel, M.D. Medical College of the State of South Carolina, Charleston, 1858; died, June 23, at his home in Daniel, Saluda County. S. C., from paralysis, after an illness of three weeks, aged about 75.

Wiliam A. Egbert, M.D. Cleveland University of Medicine and Surgery, 1875; of Spokane, Wash.: died at the Deaconess' Home Hospital in that city, June 23, from heart disease, after a short illness, aged about 65.

Henry Ganter, M.D. University of Würzburg, Germany, 1875; died at his home in Floraville. Ill., from cerebral hemorrhage. June 24, after an illness of three days. aged 59.

Louis H. Reid, M.D. Georgetown University School of Medicine, Washington. D. C., 1876; a Confederate veteran; died at his home in Atlanta, Ga., June 25. aged 68.

Thomas McCausland, M.D. College of Physicians and Surgeons. Ontario, Toronto. 1868; died at his home in Toronto, June 21, after a prolonged illness, aged 72.

George K. Tillotson, M.D. Rush Medical College, Chicago. 1876; of Chicago; died in Lakeside Hospital. July 2, from septicemia, after an illness of two weeks. aged 58.

George F. Webber, M.D. Medical School of Maine. Medical Department of Bowdoin College, Brunswick, 1879; died at his home in Fairfield, Maine, May 11, aged 55.

Oscar T. Lewis, M.D. Medical Department of the University of Tennessee, Nashville, 1891; died at his home in Roans Prairie, Texas, June 23.

Locke S. Pennington, M.D. Memphis (Tenn.) Medical College, 1906; died recently at his home in Steens, Miss.. aged 26.

Deaths Abroad.

M. Bial, M.D., of Kissingen. whose name is connected with researches on the pathology of the metabolism. died at Munich. May 26. aged 38.

A. Reverdin, M.D., the well-known professor of surgery at Geneva. Switzerland. died at that place June 16.

Society Proceedings

COMING MEETINGS.

American Ophthalmological Society. New London. Conn.. July 15-16
American Public Health Association. Winnipeg. Can.. Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng.. Cleveland. Aug. 27-29.
Wyoming State Medical Society. Sheridan, Aug. 28.

AMERICAN PEDIATRIC SOCIETY.

Annual Meeting, held at Delaware Water Gap, Pa.. May 25-26, 1908.

(*Continued from page 66.*)

Congenital Obliteration of Esophagus with Report of a Case.

Dr. J. P. Crozer Griffith, and Dr. R. L. Lavenson, Philadelphia, said that they had endeavored to make the report one for reference. and necessarily, they had referred largely to the writings of others, adding such cases as they had collected. The case reported was one of obstruction with fistula into the trachea; a child aged 9 days, admitted to the Hospital of the University of Pennsylvania. had been unable to swallow since birth and every attempt to give anything produced strangulation with cyanosis and regurgitation through the mouth. The child had been greatly emaciated and had died a few hours after admission. A drawing of the condition was shown. Upper part of esophagus ended blindly; lower part opened into trachea. Symptoms were characteristic. There was constant choking over mucus that could not be swallowed. Death invariably occurred in such cases, due partially to drying up of the tissues from lack of water. The only possible thing to do was a gastrostomy, which had been tried in several cases.

Spasmodic Stricture of the Esophagus in an Infant Aged Four Months.

Dr. Samuel S. Adams, Washington, presented the history of infant who came under observation at the age of four months, a year last February. He was called in to see a well nourished baby with a history of having some difficulty in swallowing. The mother had nursed it. he said. up to the third month, when modified milk had to be substituted. The child could swallow at times and then something would take place that prevented swallowing and it would go some days without food. On giving a few spoonfuls of water, which were taken ravenously, distress was shown, with attempts at vomiting. Fluid would come up into the mouth and be swallowed again. After eight or ten attempts it was rejected. together with mucus. Obstruction of esophagus of a spasmodic nature was diagnosed. Attempts to pass a bougie had failed, but a small sound had been passed and followed up with a small feeding tube. Skiagraph showed nothing. The parents had removed the child from hospital and for the next fourteen months it had not been seen, but the condition was said to have persisted. Later the child had died of pneumonia, autopsy showing a pneumonia of posterior left side and rupture of a diverticulum. There was an obstruction of the esophagus due to breaking down of an enlarged tuberculous gland, which pressed upon the esophagus. Below the obstruction there were two diverticuli; and a third above it.

DISCUSSION.

Dr. Augustus Caille, New York. reported a somewhat similar case in a lad of ten, who had had a spasmodic stricture for five years. It came on gradually and the boy was moribund from starvation. Once or twice a week the tube had to be used to feed him. He had had hydrocephalus in infancy and the speaker thought that the irritation was probably of central origin. Dr. Caillé gave a warning regarding the examination of the esophagus by the sound or esophagoscope, having recently seen a girl of 16, with difficulty in swallowing, examined with the esophagoscope by expert, who had run the instrument into the pleural cavity. which was followed by pneumothorax and death.

Dr. C. B. Putnam, Boston, mentioned a case like Dr. Griffith's. that had occurred in a child 3 years of age. The esophagus had had a blind ending and the lower portion had opened into the trachea.

Dr. Thomas Morgan Rotch, Boston, said that some of these cases of constriction of the esophagus simulated very closely pyloric stenosis and were almost identical as to rational signs. There was danger in passing a sound because there seemed to be a thinning of the wall at the lower part of the esophagus in these cases. They also simulated closely cases of chronic gastric indigestion.

Dr. A. Jacobi, New York, said that carcinoma of the esophagus was apt to be found in the same position. He thought that the cause must be looked for in embryonal conditions. Defects of the muscular layers were quite common.

Dr. Samuel S. Adams, Washington, said that there had been no fluid found outside the esophagus in the surrounding tissue, nor had there been anything in the bronchial tubes, but he believed the pneumonia to have been probably the result of inspiration of some food the child had been trying to take.

A Simple Method of Circumcision in the Newborn.

Dr. W. Reynolds Wilson, Philadelphia, said that the disadvantages of the usual method were, first, in the incompleteness of removal of the foreskin in instances where it was adherent to the glans; second, in the application of the sutures; it might require a number of sutures to control the bleeding points and the sutures thus placed irregularly might have to be tightened to the point of unduly constricting the tissues, as a result of which edema might occur; should sutures become infected, a slough would form and resulting granulations would be difficult to deal with. He splits the prepuce longitudinally on the dorsal aspect with a pair of sharp scissors. The skin was first divided, division of the mucous membrane to a point corresponding to the limit of division of the skin following. The mucous membrane was rolled back to the corona and rendered perfectly free. The scissors were used to trim off the redundant fold of skin and mucous membrane on either side of the incision, and the redundant fold of skin to the distal side of the frenum was likewise removed. The skin was then drawn back and carefully inspected, in order to deal with any irregularity in the cut edge. A tape of gauze, half an inch in width, and so cut that the edges were frayed was applied, securing the roll of mucous membrane in position behind the corona and compressing the bleeding vessels. The end of the glans was left uncovered so that there might be no obstruction to the meatus. Over the gauze tape a dry gauze pad was placed and the napkin applied.

Acute Epidemic Anterior Poliomyelitis.

Dr. Henry Koplik, New York, said the epidemic which had visited New York last summer had been the most extensive known in New York and possibly in the United States, numbering something over 1,200 cases; and his impression was that a great many were not reported to the Board of Health. The disease had been quite widely distributed; it had occurred, not only in the crowded or filthy districts, but in the best localities. Conditions of the streets had not been unusual; there had been nothing in the water supply to attract attention, and the milk supply had been as good as in previous summers. The general characteristics of the disease had not resembled that which was known as poliomyelitis anterior, but something new. There had been cerebral cases, in which the child apparently healthy would go into a sudden condition of unconsciousness, or develop paralysis of the extremities, with difficulty in respiration and swallowing In other cases the cerebral condition would abate but there would be complete paralysis. The child might go to bed apparently well and wake with acute pain in the extremities and joints. These cases were often mistaken for rheumatism. Patients would go to bed well and awake with paralysis of the extremities. The term poliomyelitis must be accepted temporarily. In the majority of the neurotic cases the reflexes had been increased. The rapid atrophy of the muscles in the cases where paralysis was to remain permanent had been striking. As to mode of infection; in most there had been some history of intestinal disturbance; in others a distinct tonsillar inflammation just before the onset of the disease. There was a new infectious agent capable of causing paralysis and even death by its effect on the gray matter. It was sad to see how many children had been incapacitated by this disease. The treatment which had seemed to give the best result was that pursued in other forms of neuritis—hot baths, massage, electricity, etc. Dr. Koplik advised keeping up the tone of the muscle while the paralysis lasted.

Early Symptoms of the Recent Epidemic of Poliomyelitis.

Dr. L. E. LaFetra, New York, said that the epidemic in New York did not agree with the ordinary symptoms of poliomyelitis, which begun with vomiting and fever, followed later by paralysis. He had made a study of the early symptoms in 63 cases. The condition preceding the onset of the disease had not been sufficiently uniform to justify any conclusion. Vomiting had occurred in 25 cases; constipation in 14; diarrhea in 17. Fever had been noted as present in 52, but probably had been present in all. Restlessness and irritability had been very common. In three cases there had been marked general hyperesthesia; convulsions in 4, but severe in only 1; rigidity of the neck in 11, persisting over a week in one. Study of the reflexes was not satisfactory; of 20 cases reflexes had been absent in 16. In 2 patellar reflex had been absent on both sides while paralysis had involved only one extremity. In no case had the tendon reflex been exaggerated. Babinski sign present in 3. Apathy present in 10 cases, stupor in 4 cases, headache noted as present in 10 cases; photophobia present in 3. Pain and tenderness in the limbs in 3. Character of the paralysis: in 58 cases flaccid, in 5 rigidity. Opisthotonos had existed five days in one case. Lumbar puncture had been done in 14 cases; fluid clear in every instance and negative as to bacteria. Confusion with meningitis or neurosis very easy in the early stage.

DISCUSSION.

Dr. L. Emmett Holt, New York, said the epidemic was now being studied by a committee appointed by several of the societies, and according to the best information obtained the number of cases in New York was not far from 3,000, so that it was probably the largest epidemic in the world. He had been struck by the number of groups of cases occurring together.

Another striking thing was the number of cases that recovered, and completely. The disease had stopped with the advent of October and that had been the history of these epidemics everywhere—that they ceased with the beginning of cold weather. Examinations suggested that it was perhaps an acute inflammation of the central nervous system, which generally localized its effects on the anterior horns, but might affect the cerebrum without affecting the cord at all.

Dr. A. Jacobi, New York, did not agree with the view that it was an entirely new disease. He thought that it was not perhaps a disease of the cord itself, but of the whole nervous system. Similar cases had been observed in the extensive reports of Heine, in 1840 and 1860. Cases of polioencephalitis had a greater tendency to get well than cases of poliomyelitis.

Dr. John Lovett Morse, Boston, agreed that the symptomatology in this epidemic was not new.

Dr. C. G. Kerley, New York, had seen in this epidemic 43 cases, 13 in the Babies' Hospital, 9 in other institutions, 3 in his own practice and 18 in consultation. He agreed with Dr. Koplik and Dr. LaFetra as to the symptomatology.

Dr. Henry Koplik, New York, said that the findings postmortem in two fatal cases at the Mount Sinai Hospital showed areas of softening throughout the cortex; areas of hemorrhage throughout the cord, and areas of softening in the cord. The disease did not affect any other nervous disease that might be in progress at the same time.

An Unusual Type of Acute Nephritis in Children.

Dr. John Lovett Morse, Boston, said that he had recently seen a number of cases of acute nephritis in children in which the characteristics of the urine had been materially different from those of the ordinary form, the chief difference being the complete or almost complete absence of blood and blood elements and the presence of a large number of small, round, mononuclear leucocytes. There could be no doubt that the cases were acute and not chronic. The course was essentially the same as in other forms of acute nephritis with the exception that the duration was usually shorter and the prognosis somewhat better. The histories were given in detail and illustrated the types very well In some instances not only was blood absent but very few other renal elements were found even when the symptoms were marked and there was a large amount of albumin. The only description which seemed to fit this type was one by Huenner He thought the condition one of pyelonephritis rather than the ordinary acute glomerular or interstitial nephritis.

DISCUSSION.

Dr Henry Koplik, New York, called attention to the description in Osler's collection of cases of typhoid with the occurrence of such kidney trouble in which there were leucocytes and casts in the urine He had a case then under observation in which the existing nephritis probably resulted from gastro enteritis

Dr J H Mason Knox, Baltimore, described similar cases running a chronic course in which sections showed convoluted tubules undergoing hyaline degeneration, the nuclei not staining at all

Dr L E LaFetra, New York had had one case that corresponded quite closely with those of Dr. Morse, and in that case the leucocytes had persisted for a long time after disappearance of the casts The child had been otherwise in good health and the only thing that had called attention to the condition had beeen some puffiness of the eyelids

President's Address—Public School Education

Dr Charles Gilmore Kerley, New York, said that the education of a child, taken in a broad sense comprehended all that disciplined and enlightened the understanding, cultivated the taste and formed manners and habits It meant all preparation all means to the end of fitting the child for a field of activity whereby his own life might be made more satisfactory to himself and more useful to the state The child should be taught how to live

Dr Kerley considered the subject from the two standpoints That which related to the child's physical, and that which related to its mental development The speaker said that in the United States to day there were 18,000,000 children in attendance at the public schools The school year had been increased from three months to ten months The chief control of the child had been transferred from the home to the school, which meant that the duties and responsibilities of the public school had increased tremendously He quoted from the report of Dr Maxwell, Superintendent of Schools in New York, who said "sitting several hours a day at a desk which may not be hygienically constructed, increases such diseases as curvature of the spine and often produces faults of posture, and defects in eyesight " Dr Kerley advocated some changes in the curriculum He would have the pupils taught reading, penmanship, geography, history and arithmetic and leave out the non essentials Among the essentials he included religion, as it was the corner stone of character, it should comprise allegiance to a Supreme Being and obligation to one's self and his neighbor Social prophylaxis should be taught and what constitutes morality The pupil should be taught the deleterious effects of alcohol and narcotics Dr Kerley deprecated the system of prizes and rewards for the best recitations and sets of answers as a bad one, as it overtaxed the pupil He would impress on teachers and the Boards of Education the thought that 'labor is the inevitable lot of the majority and the best education is that which makes labor the most productive"

Recent Diagnostic Methods in Tuberculosis of Children

Dr L Emmett Holt, New York, presented this paper, which consisted principally in the exhibition of a series of charts illustrating the employment of the fever reactions to tuberculin, the tuberculin eye test (Calmette) and the tuberculin skin test (v Pirquet) Of the fever reactions to tuberculin, he said, of the positively tuberculous, 22 were positive, 1 doubtful and 1 negative, of cases probably tuberculous there were 17 positive reactions no doubtful or negative of cases probably not tuberculous 2 positive reactions, of the positively not tuberculous, 1 positive, 60 negative reactions There had been no unfortunate results in any of the cases, 568 tests had been made The second chart was based on experiments with the Calmette test of the positively tuberculous there had been a positive reaction in 24, doubtful 3 negative 8, probably tuberculous, 15 positive, 1 doubtful, probably not tuberculous, positive 2, doubtful 6, negative 508 Tuberculin skin test, of the positively tuberculous, positive 7, negative 1, probably tuberculous, positive 9, negative 1 probably not tuberculous, negative 41, positively not tuberculous negative 3 In the skin test there had been no doubtful reactions recorded, a point in favor of that test He had not employed the Moro test, with inunction As regarded reliability, the fever test was not so scientific The skin test was made with three scratches and 25 per cent tuberculin rubbed into two of them The character of the reaction was definite The skin and temperature tests were the most reliable, and absolutely free from risk Experience of others had shown that eyetest was not altogether free from risk He thought the fever reaction would disappear from clinical use to be replaced by the other two tests In regard to ease of application the skin and Moro tests were to be preferred The eye test also was satisfactory in this respect He considered the tests of great assistance in the diagnosis of tuberculosis

DISCUSSION

Dr William P Northrup New York agreed with the essayist He did not take a cheerful view of the injection test, He thought there was considerable risk in the eye test

Dr Thomas Morgan Rotch, Boston, agreed that the fever test would not be so popular in the future as the eye and skin tests, but they had never met with any serious results except where there had been a fault in the technic In 100 consecutive cases the eye test had given no bad results He preferred the skin test

Dr Augustus Caille New York, opposed the eye test, as he did not think the eye a proper organ for experimentation He thought it fairly unreliable

Dr Henry Koplik New York had found the v Pirquet test useful in those cases where fever existed and the tuberculin fever test was ruled out The eye test he had not allowed to be used in his service as he was afraid of it

Dr S M Hamill, Philadelphia had ruled out the eye test because it produced a lesion which was painful and disturbing, and he considered that it was attended with some risk

Dr A H Wentworth, Boston called attention to the positive reactions in healthy persons and said that there were a good many tables published in German literature of apparently healthy persons giving positive reactions In one series one sixth gave a positive reaction for the eye test and almost one half for the cutaneous

Dr L Emmett Holt, New York said that positive reactions in healthy persons might be due to latent tuberculosis

Fresh Air in the Treatment of Disease

Dr William P Northrup New York presented two points, one as to the practical application of open air treatment the other as to the cases to which it is adapted One of the first questions he said, was Is cold essential? He was convinced that it was The experience of the Health Department of New York in the treatment of tuberculosis was interesting patients put out in the open shack slept well without "dope He considered this one of the most important points—that the patients became quiet and slept One of the first rules should be that the patient and attendant should be made comfortable, and this could be done in very cold weather if gone about in the proper manner As to the preparation of the bed there should be first laid upon a spring mattress a sufficiently large blanket that when folded over should represent an envelope, it should be brought over and pinned around the entire patient inside this there should be a paper or rubber layer to keep the cold from coming up from below The patient should be clothed in a union suit With adults it might be necessary to wheel them inside once in a while to allow them to stretch As to the type of disease adapted for the open air treatment he suggested pneumonia scarlet fever, measles, bronchitis acute febrile disease of any kind As to the results it killed nobody, it hurt nobody, and he was equally sure that it helped all. In doubtful, desperate cases it had often determined the balance in favor of cure.

Dr. E. E. Graham, Philadelphia, said that the fresh air treatment had been of prime importance in reducing the infant mortality in his institutional practice. He had lost his dread of pneumonia as a hospital disease since the beginning of this manner of treatment in the wards. Typhoid patients did so much better in the fresh air that nothing could induce him to return to the old treatment.

(To be continued.)

AMERICAN ASSOCIATION FOR CANCER RESEARCH.

Meeting held in Buffalo, April 15, 1908, at the New York State Cancer Laboratory.

The President, Dr. James Ewing, New York, in the Chair.

Hemolytic Tests for Malignancy in Human Beings.

Dr. George W. Crile reported the results of the test as follows:

I. Normals. 107 tests. No hemolysis.

Tests of miscellaneous diseases, 50. Hemolyzed, 4. These 4 included 1 hemoglobinuria, 1 eclampsia, 1 gastric case diagnosis not made, and 1 hematuria. Carcinoma, 50. Hemolyzed, 39. Sarcoma, 16. Hemolyzed, 13. Making a total of 66 cases of malignancy in which 53 hemolyzed.

Carcinoma recurrence, or cured, to prove if cured. Ten tests made, 9 no hemolysis, 1 questionable. Papilloma, 2 tests. Hemolysis, 1; no hemolysis, 1. Tuberculosis (surgical), 11 tests; hemolyzed, 9. Chronic suppuration, 10 cases. No hemolysis.

II. Of the 13 cases not giving hemolytic reaction: One gastric case: diagnosis not proved. One sarcoma spine; advanced case. One suspected sarcoma; advanced case. One carcinoma recurrence; advanced case. One cystic ovary. Five carcinomata breast; advanced cases. Two epitheliomata (neck); advanced cases. One lymphosarcoma; advanced case.

Suspected malignant cases not showing hemolysis, and positive diagnosis proving no malignancy: Two gastric cases. Four gall-bladder cases. Two tumor of the thigh. Two cirrhosis of liver. One tumor of chin. One tumor of clavicle. One cystic ovary. One breast case (cyst).

Case on the medical service March 18, 1908, showed hemolysis and reverse hemolysis, and a tentative diagnosis of carcinoma of the stomach was made. Medical service diagnosed the case anemia. April 25 medical service palpated tumor and diagnosis of carcinoma of stomach was made from specimen of tissue from stomach contents.

DISCUSSION.

Dr. R. Weil, in discussing Dr. Crile's paper, staid that during the past few years a number of observers had studied the hemolytic effects of human serum in certain diseases. The majority had used the corpuscles of alien species, but some, notably, Ascoli, had used human corpuscles. Ascoli had, by this method, reported three cases of hemolysis by cancer sera, but had also found hemolysis in other diseases. Dr. Weil had some time ago reported the results of a systematic study of the effects of a series of sera derived from dogs suffering with tumors, on the corpuscles of other dogs suffering with the same disease. He had found these sera hemolytic in almost every case, but he had also found normal sera frequently hemolytic for dog corpuscles. He had, however, been able to demonstrate a specific resistance on the part of the corpuscles of tumor dogs to the serum from such animals, which normal corpuscles do not show. He was glad that Dr. Crile had been able to confirm these reactions in human beings. His own experience in a smaller number of human cases had failed to reveal any such specific corpuscular resistance in cancer cases. He believed that the serum in human cancer is sometimes hemolytic, often not so, and that other diseases, such as tuberculosis, often show the same conditions. He did not believe that the reaction in human beings is of any value at present. The specific resistance of red cells to the hemolytic sera of the individuals from which they were derived is a phemonenon which needs much further study. It has been demonstrated as the result of the injection of eel serum in rabbits and has been accepted by Ehrlich. It seems to be a necessary corollary of the existence of isolysins, as demonstrated by Theobald Smith in horses, and by the speaker in dogs, but was far from being generally accepted or understood.

The Lymphosarcoma of Dogs.

Dr. Leo Loeb reported on investigations carried out with Drs. John Hunter and G. M. Laws into the character of the lymphosarcoma of dogs. About eight years ago the author showed that after a successful inoculation of the sarcoma of the thyroid of white rats the peripheral parts of the transplanted cells remain alive and multiply rapidly by mitotic division. The new sarcomata arise through a proliferation of the transplanted tissue and through cell multiplication in the host. Afterwards Jensen showed the same process to take place after transplantation of adeno-carcinomata of the mouse. In regard to the tumors found in dogs in the genital region, opinions differ very much. Sticker maintained that the inoculated tumors originate through a multiplication of the transplanted cells. Bashford disputed this view and stated that the formation of the new growths results from an infection of the host by unknown organisms. Beebe and Ewing showed that after transplantation the peripheral tumor cells remain alive and give origin to the tumors, a view which has not yet found general recognition. The author's investigations show without any doubt that the interpretation of Sticker and Beebe and Ewing is correct. The examination of tumor pieces at different periods after transplantation proves that peripheral tumor cells remain alive and propagate very soon after inoculation. That at any stages the connective tissue cells of the host can be proved to participate in the proliferation, as has been recently maintained by Wade, is very unlikely, but further researches into this question will be made.

The Transplantation of Skin of the Guinea-Pig into Different Species.

Dr. Leo Loeb and Dr. W. H. F. Addison said that a very large number of comparative transplantations of guinea-pig skin into the guinea-pig, rabbit, dog, pigeon and frog showed that (1) after transplantation into the rabbit and dog, infection of the transplanted skin is much more frequent than after transplantation into the guinea-pig and pigeon. (2) The number of pieces which grow is very much smaller after transplantation into foreign species. (3) Pieces of guinea-pig skin can proliferate by mitotic division in the rabbit and dog up to 8 days; but such a proliferation is only exceptional in the dog; in the pigeon such a proliferation may take place up to the sixth day and is much more frequent. No mitosis can be seen in the frog at any period after transplantation: the skin dies very rapidly in the frog; if such skin is retransplanted into the guinea-pig about six hours after transplantation into the frog, no growth takes place in the guinea-pig. Living epithelium is seen in the rabbit even ten days after transplantation. (4) Pieces of guinea-pig skin which remain alive in the rabbit are destroyed through the proliferation of the surrounding connective tissue of the host, in a similar way as guinea-pig skin transplanted into the guinea-pig is gradually destroyed through the surrounding connective tissue, in cases in which the epithelium of the guinea-pig skin has not been able to form a cyst. The formation of such a cyst has never been observed in the author's experiments, after transplantation of skin into other species, because the energy of cell-growth is less under these conditions. (5) They find typical differences in the curve of growth after transplantation of skin into different species. In the frog no growth takes place. In the pigeon the cell proliferation in the first five days is very good, but then follows a sudden decline. In the rabbit the growth of the non-infected pieces is in the first five days not better than in the pigeon, but, after this period the rabbit forms a soil much superior to the pigeon. In the dog the growth is usually very slight. On the whole, therefore, there is a distinct connection between the condition of growth of the transplanted skin and the relationship between the guinea pig and the animal into which the skin has been transplanted (b) The facts established can not be very well explained on the basis of Ehrlich s hypothesis of athreptic immunity, but suggest the presence of toxic substances in the organisms of a different species

Dr Leo Loeb demonstrated microscopic specimens of different varieties of malignant struma, sent by Professor Langhans from the Pathological Institute in Berne

Autoinoculation or Local Infectivity of Cancer.

Dr William B Coley, of New York, read this paper and gave a report of cases Regarding the question of autoinoculation of lip carcinoma, Dr Coley referred to an important discussion on this subject in Glasgow 20 years ago, in which Sir Hector Cameron expressed his opinion against autoinoculation In this discussion Cameron stated that 'the upper lip in every case of epithelioma of the lower lip, is in close contact with the disease, night and day. But, has any one ever seen the upper lip become infected by direct contamination under such circumstances?"

Dr Coley then cited Butlin, who stated that, since this discussion took place, there have been three cases of infection of the upper lip by the lower, but in only one—that of v Bergmann, had a microscopical examination been made of both tumors Through the kindness of Dr George C Johnston, of Pittsburg, Pa, Dr *Coley was enabled to report another case* of apparent autoinoculation of the upper lip from an epithelioma of the lower lip The patient, male, age 47 years, consulted Dr Johnston in the fall of 1904, with a typical carcinoma of the lower lip involving the submaxillary glands Refusing operation, the patient was treated with the *x* ray, with the result that the tumors disappeared Three years later, there developed a similar, typical, epitheliomatous tumor on the upper lip, precisely over the site occupied by the tumor of the lower lip three years before Dr Coley presented photographs of the case taken at different periods during the three years He believed that from this observation it would be difficult to escape the conclusion that the tumor of the upper lip was the result of direct contact infection from the tumor of the lower lip, and, furthermore, that there was an incubation period of three years, which makes the case unique

Dr Coley reported in brief another case which had been under his personal observation about eight years ago in which a primary carcinoma of the cecum had caused a similar tumor to develop in a loop of small intestine by direct contact infection He had performed resection of both the large and the small intestine, and microscopical examination showed the growths to be of similar type in both cases He stated that he had also observed a number of the more common varieties of so called autoinoculation, e g, rapidly developing carcinoma of the muscle and skin wound of the abdomen, following operation for abdominal carcinoma, especially in cases in which free fluid was present at the time of operation

He referred to a recent paper by Charles Ryall (*Lancet*, Nov 9 1907) on Cancer Infection, describing 25 personal cases illustrating the various types of autoinoculation

Dr Coley stated that he believed the local infectivity of cancer to be an indisputable fact which no one, who has had a large operative and clinical experience with the disease can doubt He believed that if this fact were more generally appreciated, it would lead to much greater care in cutting wide of infected areas at primary operations, and would greatly lessen the number of so called palliative operations for cancer, in which the disease is but partially removed and in which highly infective cancer cells are widely disseminated over new areas

DISCUSSION

Dr Leo Loeb, in connection with Dr Coley s interesting observations, mentioned (1) that in the course of his transplantation of various sarcomata in the white rat he had observed a number of cases in which tumors developed as the result of contact of tumor cells with certain tissues Especially noteworthy was the fact that tumors of similar structures differed widely in regard to the readiness with which contact metastases could be produced Rapidly growing strains of sarcoma caused the formation of contact metastases much more frequently than slowly growing strains although the microscopical structure in both cases was almost identical This fact is not without interest to the operating surgeon (2) In a paper recently published in the *Journal of Medical Research*, he showed with Dr S Leopold, that tumor inoculation into the same organisms in which the tumor originated might succeed, while inoculations into other individuals of the same species were unsuccessful and he pointed out that the same probably holds good for the majority of tumors, including tumors in man For that reason contact metastases may still be produced, where inoculation into another individual would be unsuccessful

Dr Coley stated that it was possible that the tissues of an individual suffering from cancer, were more liable to infection from cancerous material, than in a healthy individual This would seem to be shown by the very small number of cases in which the surgeon has apparently been infected during operation on cancerous patients

The cases which he himself reported together with the 25 cases reported by Ryall, certainly prove beyond any question that the cancerous cells have the power of autoinoculation, at least in individuals suffering from cancer That this infection has the power of remaining latent for very long periods of time, is shown by his own experience in cases of late recurrence of cancer of the breast He stated that he had observed three cases *in which local recurrence had taken place within* periods of from 12 to 17 years after operation At the meeting of the American Surgical Association, a year ago one case of local recurrence 20 years after operation was reported

Dr Coley further stated that, naturally, the question arises whether the cancer cell itself remains alive and dormant all these years, or whether it is a micro organism of some sort which, as in tuberculosis, remains latent for long periods In view of the recent observations of Ehrlich and Loeb showing that it is possible for a carcinomatous tumor in animals to be transformed, in a single generation, into a sarcomatous tumor, there is some ground for accepting the theory of Ballonce of London, who believes that a single micro organism may, under varying conditions, give rise to proliferation of epithelial cells at one time and connective tissue at another time

(To be continued)

AMERICAN ASSOCIATION OF GENITOURINARY SURGEONS

Twenty second Annual Meeting, held at Hot Springs Va, May 1 2, 1908

The President, Dr Harvey G Mudd, St Louis, in the Chair

Cases of Stricture of the Membranous Urethra

Dr Edward L Keyes Jr, New York, said that up to the end of the last century gonorrheal stricture was considered to be confined to the anterior urethra By performing perineal prostatectomy surgeons have come to recognize strictures at the neck of the bladder, but, with the exception of the case reported by Bazy, attention has not been called to strictures of the membranous urethra, and that portion of the urethra now enjoys the distinction of being the one portion of that canal supposedly exempt from sclerotic infiltration It is supplied with the glands of Littré, and therefore offers a good field for that gonococcal penetration into the tissues which is the foundation of gonorrheal stricture Dr Keyes reported in detail two cases recently operated on, in which there was very marked stricture of the membranous urethra In the first case perineal section was performed with a guide and under cocain The urethra being opened a probe readily entered the membranous urethra and this was cut on widely for about an inch—almost to the apex of the prostate—but even at this point nothing larger than a grooved director would enter the urethra The second case was one of dense stricture in the bulbous urethra extending into the membranous urethra This portion of the canal would take nothing larger than a 10 F bougie These two cases suggest that ancient neglected strictures of the bulbous urethra may often involve the membranous urethra as well The presence of stricture in the mem branous urethra appears to add no danger or symptoms to that of the bulbous urethra. A more frequent use of local anesthesia will probably disclose the frequency of this condition.

DISCUSSION.

Dr. Hugh H Young, Baltimore, said he thought that back of the posterior layer of the triangular ligament it is rare, indeed, to find any stricture, but that that portion within the triangular ligament is more commonly involved, and he has seen two or three cases in which that was the condition

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Dr Samuel Alexander, New York, said he thought that we need not alter the generally accepted opinion that strictures of the urethra are in nearly all cases primarily limited to the anterior portion of the urethra; but the fact that strictures, not traumatic, of the membranous urethra do occur secondarily to stricture of the anterior portion of the urethra, has been well recognized for some time Primarily there is a stricture of the anterior urethra, above that a dilatation of the membranous urethra, followed by infection of the glands of Littré, and then a secondary contraction of the membranous urethra. These strictures are always secondary to strictures of the anterior urethra, and due to a periurethral inflammation about the membranous urethra

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Dr James Pedersen, New York, said that, excluding errors of judgment, errors in diagnosis and the accidents of normal instrumentation, there remains a high percentage of urethral and bladder cases which have been over-treated or erroneously treated by a conscientious physician who, all unwittingly, has thus fallen short of the attainable. The common errors in the treatment of the urethra and bladder may be classed under two heads—errors of omission and errors of commission. Under errors of omission may be grouped: Neglect of a prostatitis or seminal vesiculitis or both; neglect of the patients' general condition; failure to insist on sexual hygiene; failure to regulate his habits as to alcoholics, tobacco and coffee; inattention to the dietary and the quantity of water drunk. Under errors of commission may be placed: The use of the sound in the face of contraindications; over-frequent dilatation and overdilatation; the unscientific use of irrigations in general; in particular, the use of intravesical irrigations before the chronic stage of a urethritis; the use of strong—that is, caustic, injections and instillations; the sudden emptying of a chronically overdistended bladder; the administration of methylene blue except as a placebo; and, finally, the use of undistilled water in making up solutions of silver nitrate. Numerous illustrative cases were cited.

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Dr E. Wood Ruggles, Rochester, N. Y., considered the various congenital abnormalities of the penis in detail, and mentioned illustrative cases This, more than any other organ of the human body, is subject to the most varied changes in development and in appearance.

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Dr. Samuel Alexander, New York, read a paper on: (a) "An Operative Device for Urethrorectal Fistulas, (b) The Restoration of Voluntary Control of the Urogenital Sphincter in Incontinence of Urine Following Operations on the Prostate." He operates on urethrorectal fistulas as follows: A curved incision is made in front of the anus, extending from one tuberosity of the ischium to the other; the central portion of the perineum is divided and the dissection is carried upward between the rectum and the prostate, so as to expose the wall of the rectum externally for at least one-half inch above the upper margin of the fistula; the edges of the fistula are separated from the urethra by cutting with a sharp knife and scissors; the edges of the urethra at the seat of the fistula are carefully freshened, but the urethra should not be sutured. the tissues about the fistulous opening in the rectal wall are then freshened with curved scissors and made smooth; the opening in the rectal wall is closed by interrupted Lembert sutures of chromicised catgut placed from the perineal side: the sutures should not include the mucous membrane of the bowel. To protect the line of suture in the rectal wall, the following expedient is used: A small triangle of gauze consisting of six or eight layers is made to fit the wound. The apex of this triangle is carried by forceps into the vesical orifice. Between the layers of gauze a 10 per cent. iodoform ointment, made with petrolatum, is then injected from a glass syringe between the layers of the gauze, and the little pad is then plastered down so as to fit the posterior surface of the perineal wound accurately.

In restoring voluntary control the principle of treatment is to make the individual learn by practice to exercise voluntary control over what remains of the urogenital sphincter, thus preventing the escape of urine. If this can be done, automatic control follows as a physiologic necessity. Any atonic or damaged muscle may be made to act, and the power of its action gradually increased by proper exercises.

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Antigonococcic Serum.

Dr. **George K. Swinburne**, New York, read this paper. Since June, 1906, he has used the serum almost without interruption on a large variety of cases. Since September, 1907, he has treated 69 cases, 41 dispensary and 28 private cases. The serum was used in 14 cases of chronic relapsing epididymitis, 10 of which were dispensary cases, and in almost all there was marked improvement. The striking relief noted was in the diminution or quick cessation of the pain. In the cases of acute epididymitis, 27 in all, the majority were relieved of pain within forty-eight hours, and almost all went on to uninterrupted recovery. There were 4 cases of muscular rheumatism in connection with chronic gonorrheal disease treated with the serum. Two were relieved and 2 received no apparent benefit. There were 10 cases in which there was muscular rheumatism with apparent involvement of one or more joints. The majority of these yielded promptly, 1 was not relieved, and 2 were but slightly improved. Five cases of pure joint lesions were treated, and responded promptly to the serum. They all followed a primary attack of gonorrhea. In 2 cases of gonorrheal kidney in which the serum was used there was no improvement. Though the serum is supposed to have no power over the gonococcus, yet in 2 cases of persistent presence of gonococci in the urethral discharge the organisms disappeared after the use of the serum. In 1 case of acute prostatitis in which the serum was used once a day for three days, there was relief of the pain and throbbing. It was used in 1 case of acute vesiculitis with immediate benefit.

DISCUSSION.

Dr. **Louis E. Schmidt**, Chicago, has used the serum treatment in a number of cases of prostatitis and epididymitis, and has noted all kinds of complications during the course of the serum treatment with no benefit whatever.

Operative Treatment of Acute Gonorrheal Epididymitis.

Dr. **Francis R. Hagner**, Washington, gave a further report. He published his original paper in the *Medical Record*, Oct. 13, 1906. The operative treatment of gonorrheal arthritis was the procedure that suggested operative intervention in these cases. In every case operated on fluid had been present in the tunica vaginalis, varying in amount from two drams to two ounces. This fluid resembled that seen in gonorrheal joints, in that it was usually slightly blood-stained and contained a varying amount of fibrinous material in which are entangled a few leucocytes. The parietal layer of the tunica vaginalis was congested. That portion over the epididymis was intensely so, and seemed to be the seat of small punctate hemorrhages. In a number of cases the entire epididymis was covered with a false membrane. It is the exception if this condition does not exist to some degree. The relief from pain and the rapid absorption of the inflammatory exudate seem to be just as great whether or not pus is obtained. Only the severest cases have been operated on. Since March, 1905, he had operated on but 19 cases, not more than 10 per cent. of the patients of this class. There was but one case that was not relieved absolutely of all pain on recovery from the anesthesia. There was a remarkable difference between the condition of the patients before and after operation. It is interesting to note the fall in the leucocyte count, which in one case dropped from 33,000 to 8,400 in forty-eight hours. There was a parallel fall of the temperature and pulse rate. There had been no cases of infection following the operation, recurrence, atrophy of the testicle, or other distressing sequelæ. In every case the temperature had been lower after operation than before. Pus was present in 17 of the 21 cases, being in the globus minor in 12, in the globus major and minor in 3, in the globus major in 1, and in the tunica vaginalis in 1 case. Of these 21 cases, gonococci were demonstrated five times in the pus from the epididymis, and once from the tunica vaginalis when none could be found in the epididymis. One of the most remarkable effects of this operation is the very rapid disappearance of the induration in both the cord and the epididymis. The wound is usually healed in less than a week. None of the patients have had the hard, nodular condition of the globus minor lasting for a long time, such as persists so frequently in those treated without operation. On an average, the patients are up and about and free from pain in five days. The urethral discharge does not increase afterwards.

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Dr. **Samuel Alexander**, New York, said he had employed this operation extensively in the service at Bellevue Hospital, and had achieved very nearly, although not quite, as good results as Dr. Hagner had reported. In five cases of acute epididymitis complicated with prostatic abscess pure cultures of the streptococcus were found.

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The report of the Committee on Revision of the Constitution, appointed one year ago, read by Dr. Ira J. Prouty, Keene, the Chairman, suggested a number of amendments, the leading one being the adoption of the component county society idea. After a free interchange of opinions, the amendments as a whole were adopted, to go into effect May 1, 1909, the beginning of the next fiscal year; so that on that date, the New Hampshire Medical Society, after five years' consideration of this very important question, will place itself in complete harmony with practically all other state societies.

It was unanimously voted to send the secretary, at the expense of the society, to the meeting of the state secretaries, at Chicago, June 1, and a liberal appropriation was made for clerk hire for his office, in view of the increased work necessitated by the new order.

State Tuberculosis Sanatorium.

In 1902, the society, through a representative committee, heartily advocated legislation by the state, establishing a state sanatorium for consumptives: but, notwithstanding early and favorable action by the legislature, not even a site for its location has yet been accepted by the governor and council. A strong resolution, introduced by Dr. John W. Parsons, of Portsmouth, and unanimously adopted by the House of Delegates and the society in general session, called on the executive officers for immediate relief for these unfortunates. Drs. Smith of Hanover, Parsons of Portsmouth, Crossman of Lisbon, Morse of Newmarket, and Flanders of Dover, were appointed a committee to carry into effect the purposes of the resolution.

The reports of the treasurer and trustees showed the financial condition to be sound and substantial, there being to the credit of the society more than $4,500.

Twenty-nine new members have been elected; six have died during the year, and three have been dropped for non-payment of dues—a net gain of twenty.

The Committee on Medical Defense was continued for another year, and specific instructions were given to the Committee on Legislation, to secure a law providing for the appointment of expert medical witnesses by the court.

The next meeting will be held at Concord, May 13-14, 1909.

Officers for 1908-09.

The following officers were elected:
President—Dr. John M. Gile, Hanover.
Vice President—Dr. Frank Blaisdell, Goffstown.
Secretary—Dr. D. E. Sullivan, Concord.
Treasurer—Dr. D. M. Currier, Newport.
Delegate to A. M. A.—Dr. William T. Smith, Hanover.
Alternate—Dr. F. A. Stillings, Concord.
Councilors—Dr. A. H. Harriman, Belknap county; Dr. M. S. Woodman, Grafton county.

Relations of the Medical Profession to the Public.

The general meeting was called to order by the president at 11 o'clock, May 14.

After the appointment of committees and the introduction of visiting delegates, the president delivered the annual address. While giving due credit to the long strides taken in the treatment of disease—such diseases, for instance, as pneumonia, tuberculosis, diphtheria, etc.—he stated: "Preventive medicine is the branch of medicine which has led the profession into a field in which it has beocme a great factor in the industrial world. Through this the profession has performed a service which could not have been accomplished by any other agency. In this field we have produced results, the attainments of which have made the world pause with astonishment and awe. I heard Secretary Taft say before the Washington State Medical Association in Seattle last September," continued the speaker, "that the medical profession had made it possible for the United States to construct the Panama Canal, and that is the most gigantic proposition which has been contemplated in this, 'The Age of Progress.'"

The orator called attention to the great progress which has been made in the treatment, or, rather, the prevention of yellow fever, stating that thoroughly practical methods will now prevent the disease in any locality. Speaking of smallpox, he said that the death rate from this disease is about one-seventieth part of the death rate of pre-vaccination times, the severity of the disease also being lessened, as a consequence of the partial immunity inherited as a result of vaccination in previous generations. "There is every reason to believe," said the speaker, "that general and repeated vaccinations would stamp this disease from the face of the earth. But there will always be a few demagogues, a few disbelievers, and a few fools, and for this reason the profession will be obliged perpetually to wage war against this scourge."

Typhoid fever, tuberculosis and diphtheria were also discussed and the author urged on the profession the duty of educating the public in modern hygienic principles, at the same time commending the faithfulness and unselfishness with which physicians ever seek to prevent disease putting their most strenuous efforts into work for the good of humanity, which often reduces their own finances.

Hospital abuse, so-called, was next considered, the responsibility for which was placed squarely on the physician himself. "Does he tolerate the abuse," asked the speaker, "as a result of his philanthropic instinct, over which he has no control? Such an assumption is ridiculous. He renders his services to the rich and the poor alike for the prestige which he hopes to obtain as a result. He robs his brother of his legitimate means of livelihood and at the same time croaks at his own contemptible conduct. He not only tolerates the abuse, but he aids, abets, and assists to the fullest extent of his ability in continuing it. When the medical profession, individually, shall say to all people and to all corporations, 'We will render to all alike the best service that lies within us, whether rich or poor, demanding from all who are able a fair recompense, and from those who are not able, no recompense,' then, and not earlier, will the requiem of the hospital abuse be sung."

He further said that while the fact is well recognized that the results from medical expert testimony are far from satisfactory, and the knowledge of this condition of affairs is a source of regret and shame to every honest physician, for which he had no disposition to offer an apology, yet the responsibility rests only in part with the physician. The speaker denounced emphatically the evil which tends to exaggerate to the public eye that for which the profession is responsible—that is the method pursued by the lawyers before the courts in distorting the physician's testimony to suit the ends of their case, with the result that medical expert testimony is ridiculed by the press and the public in general.

Present Understanding of Non-tuberculous Joint Disease.

Dr. Joel E. Goldthwait, Boston, said that it must be recognized that the body is a machine, and that the adjustment of that machine depends on just as perfect balance as the adjustment and successful operation of an automobile, and no one with wisdom would think of operating an automobile if its axle or some other part were twisted or out of order; for, though a man might make the thing go, it would mean too great a strain on the tire in places, and one would know that sooner or later he would overturn the machine. In like manner, if the human machine is used in such a way that the balance of the body is disturbed, undesirable consequences result.

Remember that this subject is not worked through. Remember that rheumatism is not an entity, that many of the conditions are purely joint conditions, many are muscular conditions, but there is some way of finding out what those conditions mean, and it is up to you and me as physicians to bring intelligence and common sense and skill to bear in the treatment. A great many conditions we can relieve right off; a great many of the others we can control. Some of them we fail to control, but that is true of all classes of medicine at the present time I believe, and I believe that this class will get smaller and smaller the more we study such cases. It is for you, in general practice, who see these cases in the beginning, not to wait till the patients are in great danger and then bring them to the specialist to make them well, but get at them in the beginning before that disease has gotten hold of them to any extent, and then you can restore your patients to normal health with much satisfaction.

DISCUSSION.

Dr. S. S. Dearborn, Nashua, said that if we are not to mistake arthritis, we must be on the alert to recognize it. If we assume that rheumatism is due to infection, the connection between it and the condition of the fossæ becomes obvious.

(*To be continued.*)

AMERICAN NEUROLOGICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Philadelphia, May 20-22, 1908.

The President, Dr. Charles W. Burr, Philadelphia, in the Chair.

(Continued from page 69.)

Localized Epileptic Convulsions without Gross Lesions of the Cortex of the Brain.

Dr. **Herman H. Hoppe**, Cincinnati, confined his remarks to cases showing genuine epileptic convulsions and not those of the Jacksonian or reflex type. Only cases in which the physical examination was negative were selected. In one class of cases there develops, without previous epilepsy, a status hemiepilepticus which results fatally in a short time. In these cases operation is futile. It is often difficult, even after prolonged observation, to decide whether a given case of localized epileptic seizure is due to an organic lesion or not, as there are so many forms of trauma and disease which may cause an organic lesion. We must conclude, however, that these are cases which are not produced by organic lesion. When the loss of consciousness occurs first and the convulsions follow and are limited to a small group of muscles they are undoubtedly epileptic and not Jacksonian. There is a second class of cases in which attacks recur for years and in which there is no progression. The attacks always occur in the same way. In Jacksonian epilepsy there is steady progression. Differentiation must also be made from hysterical epilepsy.

DISCUSSION.

Dr. **L. Pierce Clark**, New York, stated that in a series of 11 cases of status hemiepilepticus at the Craig Colony there was only one death. It is not uncommon for patients of this type to go through attacks 15 times or more. He thinks that the cases mentioned by Dr. Hoppe are not without suspicion of organic lesion. He believes that the underlying lesion in focal epilepsy is a chronic meningoencephalitis.

Dr. **E. E. Southard**, Boston, thinks that the possibility of bacterial etiology should be looked into in these cases.

Dr. **W. G. Spiller**, Philadelphia, thinks that in cases of doubt as to the presence of an organic lesion, operation should be done early, even if it turns out to be only exploratory, for in case of tumor, success can be assured only by early operation.

Dr. **B. Sachs**, New York, stated that many cases of epilepsy are due to lesions sustained early in life. That there is some change either microscopic or macroscopic we must maintain until there is strong evidence to the contrary. In a case in which focal epilepsy comes on suddenly in an individual who has never had epilepsy before, the idea of operation might well be entertained.

Dr. **J. J. Putnam**, Boston, said that in these cases, while there is no local lesion, there is an area of maximum irritability.

Dr. **F. X. Dercum**, Philadelphia, stated that in a disease so hopeless as epilepsy, operation should be done if there is only a shadow of a chance of its doing good.

Dr. **C. K. Mills**, Philadelphia, said that the more the question of operation is studied, the greater the success. A species of Jacksonian epilepsy sometimes occurs inside the general epileptic attack, and when this is the case, operation is indicated.

Dr. **Hoppe** agreed that microscopic changes could perhaps be found in all cases of so-called idiopathic epilepsy. He believes in operation in the cases Dr. Spiller spoke of, but his cases were not of that kind.

Sane Prototypes of Insane Mental Processes.

Dr. **Theodore H. Kellogg**, New York, said that insanity is never a spontaneous mental variation, but is always evolved on persistent lines of mental action. All insane mental processes have their correlative sane prototypes which have not been adequately studied. He compared the insane mental processes with their sane prototypes in the following order: Delusions of the sane as the casual prototypes of the false beliefs of the insane; extremes of conduct of the insane as uniformly modeled after sane exemplars; insane emotions, propensities, and impulses as directly derived from their sane prototypes; the hallucinations and illusions of the insane as mere projections of the prototypic sensorial disorders of sanity.

DISCUSSION.

Dr. **H. R. Stedman**, Boston, said that the only mental conditions it seems hard to trace are the perversions of instinct, such as sexual perversions, and the eating and drinking of loathsome things.

The Course of Sensory Impulses in the Spinal Cord.

Dr. **Carl D. Camp**, Ann Arbor, Mich., said that other sensations than pain and temperature, as first taught by van Gehuchten, are conveyed in the spinal cord by fibers which take their course in different parts of the cord. Pain sensation enters the posterior horn by the posterior roots and ascends in the gray matter for variable distances varying from 2 to 8 segments, crosses in the posterior commissure, and ascends in Gowers' tract to the cerebrum either directly or indirectly. Heat and cold enter by the posterior roots and follow the same course as pain, but by distinct and separate fibers. Tactile sensation enters by the posterior roots and passes up in the posterior columns on the same side without decussation. The sense of position comes from the joints; of motion from the muscles. These enter by the posterior horn, run to the cells in Clark's column, possibly ascend in the gray matter of the same side for a number of segments, and then pass up in the direct cerebellar tract of the same side.

Diagnosis of Epilepsy and Dementia Præcox.

Dr. **L. Pierce Clark**, New York, presented the results of a joint study with Dr. E. W. Scripture on the epileptic voice in which they had found a characteristic and constant loss of melody. The epileptic speech is "plateau" in form. No other nervous or mental disorder shows the epileptic voice type. The voice sign is dependent on the chronic exhaustion or degeneration of those cortical elements which constitute the brain pathology of epilepsy proper. In three-fourths of all cases of epilepsy one may detect the voice sign without any other knowledge of the disorder being present. Dr. Clark also showed four colored drawings of the fundus changes found by Dr. Tyson and himself in all cases of dementia præcox. He laid stress on the point that one must not consider all the signs and symptoms of the eye syndrome to depend on the syndrome in prognosis and diagnosis of this psychosis.

The Symptom-Complex of Occlusion of the Posterior-Inferior Cerebellar Artery.

Dr. **William G. Spiller**, Philadelphia, enumerated in detail the symptoms of this lesion.

Thrombosis of the Posterior Inferior Cerebellar Artery with Autopsy Revealing the Lesion in the Medulla.

Dr. **Henry M. Thomas**, Baltimore, referred to several cases reported in 1896. The second patient died two and a half years after onset of symptoms; autopsy was refused. In a third case, a man of 59, who, a week before entering the hospital had intense giddiness, pain in left side of face, difficulty in talking and swallowing, drooping of left eye, and weakness of left face, the examination showed an extremely ill man, with marked vascular, cardiac and renal involvement. Sensorium dull. Constant hiccough. Left pupil smaller than right. Slight left ptosis. Slight divergent squint of left eye. Dissociated sensory disturbance on left face, right arm, and leg. No sweating of left side of face. Death in four days. Autopsy, among much else, revealed thrombosis of left posterior inferior cerebellar artery.

Discussion on Papers of Spiller and Thomas.

Dr. **B. Sachs**, New York, said that he had a case of unquestionable thrombosis of the inferior cerebellar artery a short time ago; the patient has practically recovered.

Dr. T. Diller, Pittsburg, said that he had seen three or four such cases.

Dr. Charles E. Beevor, London, Eng., said that he had not come across any case similar to those described.

Dr. D. J. McCarthy said that it should be borne in mind that there is a wide variation in the posterior branches given off by the circle of Willis, hence the symptoms may differ greatly depending on which vessels are involved.

Dr. Spiller said that the symptom group he described is so striking that if it is kept in mind a diagnosis could be made without difficulty.

Dr. Thomas agreed with Dr. Spiller and said that about 30 cases could be collected, both with and without autopsy, showing this sharp cut symptomatology.

A Case of Myasthenia Gravis with Negative Pathologic Findings.

Dr. J. Arthur Booth, New York, reported the case of a lad of eleven years who presented the familiar symptom-complex of the disease with a rather acute invasion, following an operation for adenoids. Death occurred from failure of respiratory musculature. Examination of the central nervous system was negative and specimens taken from muscles and nerves did not show anything abnormal. Thyroid, parathyroids, and pituitary glands were normal; there was slight simple hypertrophy of thymus gland

DISCUSSION.

Dr. N. E. Brill, New York, regards the enlargement of the thymus in this case as distinctly pathologic. Abnormalities of the thymus occur in 20 per cent. of the cases of myasthenia gravis.

Dr. W. G. Spiller, Philadelphia, recently had a patient found to be eliminating an excess of calcium chlorid in the urine. He was put on calcium chlorid, with distinct improvement.

Dr. Booth does not agree with Dr. Brill that the thymus in his case was pathologic.

Rest Treatment in Relation to Psychotherapy.

Dr. S. Weir Mitchell, Philadelphia, read this paper which appeared in full in The Journal, June 20, page 2033.

DISCUSSION.

Dr. F. X. Dercum, Philadelphia, said that the rest treatment was certainly original with Dr. Mitchell and that the only remarkable fact about the method is that it makes use of simple physiologic means. The danger in the newer methods of so-called psychotherapy is that they will be used to the neglect of physiologic means.

Dr. J. J. Putnam, Boston, said that no small factor in Dr. Mitchell's success is his glorious courage and inspiring personality. He agreed with Dr. Mitchell that neurasthenia is often purely physical in nature.

Dr. Charles L. Dana, New York, said that Dr. Mitchell's colleagues have never questioned the value of this original contribution to therapeutics. In reference to psychotherapy it is true that many people are going to the wrong place for treatment and that physicians should acquire a knowledge of all that is good in the way of treatment by whatever name it is called and be prepared to use it.

Dr. B. Sachs, New York, thinks that the association should stand in opposition to the psychotherapy idea as recently developed, because it has been horribly overdone, but that physicians should go along as they have always done exerting their influence often perhaps unconsciously, but nevertheless with good effect. He does not think it necessary to coin any new terms.

Dr. Charles E. Beevor, London, stated that in England the Weir Mitchell treatment is used with the greatest success; also that psychotherapy has not, up to the present time, invaded England.

Dr. Philip Coombs Knapp, Boston, endorsed absolutely everything that Dr. Mitchell said. The physical condition of the patient is too often overlooked. The most important thing is to put the patient on the best possible physical basis.

Data Regarding Paresis and Brain Disease in Railway Employés.

Dr. Philip Coombs Knapp, Boston, as chairman of a committee appointed to collect data as to the existence of general paresis and general brain diseases in railway employés, reported that the committee had gone far enough to learn that those diseases are sufficiently prevalent to constitute a grave danger to the traveling public and that it would be desirable to have locomotive engineers and train dispatchers examined regularly by competent neurologists.

The Types of Encephalitis.

Dr. E. E. Southard, Boston, considered only the exudative forms of encephalitis which fall into three groups: (1) Acute, including coccal and typhoid forms; (2) subacute, including tuberculous and luetic forms; (3) the progressive form, or dementia paralytica.

Occupation Neuritis of the Deep Palmar Branch of the Ulnar Nerve.

Dr. J. Ramsey Hunt, New York, described this well-defined clinical type of occupation atrophy of the hand with the following clinical characteristics: (a) Atrophic paralysis of the intrinsic muscles of the hand, supplied by the deep palmar branch of the ulnar nerve; (b) reactions of degeneration in the intrinsic muscles of the hand, supplied by the deep palmar branch of the ulnar nerve; (c) no objective sensory disturbances of the hand or fingers. They are to be regarded as due to compression neuritis of the deep palmar branch of the ulnar nerve as it passes between the muscles of the hypothenar region on its way to the deeper structures in the palm.

DISCUSSION.

Dr. F. W. Langdon, Cincinnati, thinks that there is a tendency erroneously to ascribe this condition to progressive muscular atrophy.

Dr. Philip Coombs Knapp, Boston, said that Dr. Hunt's careful work and his explanation are very convincing, and that these cases have been described as beginning spinal myelopathy.

Confusional Insanity and Dementia Præcox.

Dr. Philip Coombs Knapp, Boston, stated that too sharp a distinction has been drawn between confusional insanity and dementia præcox, so-called, in the endeavor to establish two distinct diseases. The confusion of the former and the stupor of the latter are only two stages of what is really the same disease. One is a disturbance of projection, and the other of perception. The pathogenesis of these conditions has not yet received sufficient study. Intoxication and exhaustion play an important rôle. The so-called dementia præcox is not always precocious, as it may begin after fifty, neither does dementia always occur. Dementia præcox, as a term characterizes the disease too strongly as hopeless, for it is not ordinarily progressive, and is sometimes curable.

Facial Paralysis.

Dr. G. A. Watermann, Boston based his paper on a number of cases of peripheral facial palsy. There was very slight difference in the side or sex affected or in the season of the year. However, exposure to cold and drafts played an undoubted causative rôle; as did also the toxins of syphilis, nephritis and the like. Ear disease also played a part. The character of pain at the beginning was of no prognostic import.

Prognosis of Spinal-Cord Tumors with Operation.

Dr. William C. Krauss, Buffalo, N. Y., said that the first operative case of spinal-cord tumor was that of Gowers and Horsley in 1888. There was one series of 50 cases in the first 10 years; a second series of 50 in the next 5 years, and a third series of 50 cases in the next 5 years. The prognosis has gradually grown better and better, and is especially good in cysts and sarcoma.

Delayed Apoplexy (Spätapoplexie) with Report of a Case.

Dr. A. R. Allen, Philadelphia, concluded that traumatic delayed apoplexy is an entity; that it may be due to an occlusion of the arteries; that when hemorrhage occurs it is not due to necrosis outside of the artery, and that the arterial changes are the result of the trauma.

Medicolegal

Check Interposed to Use of Property for Tuberculosis Sanitarium.

The Supreme Court of North Carolina had, in the case of Cherry vs. Williams, an action to enjoin the erection and use of buildings on a cerain lot, in the city of Greensboro, for a sanitarium for the treatment of tuberculosis, etc. The defendant, admitting his purpose to construct and use buildings for the treatment of consumptives, and at the place indicated, offered a large amount of evidence, including affidavits of specialists, eminent in their profession, and in the treatment of tuberculosis in hospitals and otherwise, to the effect that "a sanitarium for the treatment of consumptive patients, located in the city of Greensboro, properly maintained and conducted, would not be a menace to the health of the community in which it is situated, nor to the public health; that such sanitariums are conducted in large and populous cities all over the country where the climate is suitable for the patients, and that experience has shown that such sanitariums are not a menace to the public health, but rather a benefit;" that the proposed locality was not thickly populated, and consumption is not contagious, nor an infectious disease; and that the defendant was qualified to conduct the proposed sanitarium properly and intelligently. But the court thinks that the conditions suggested, if established, would come well within the definition of an actionable nuisance, and, if there was a well-grounded apprehension that neighbors would be unreasonably exposed to serious danger from a disease of the nature of consumption, the temporary injunction should be continued to the final hearing. The injury threatened in such case would be irreparable. It says that the authorities in that state will uphold the position that, when there are facts in evidence which give good reason to believe that the owner of property in the residential portion of a thickly settled vicinity is about to devote it permanently to a use which imports serious menace to the health of the owners and occupants of adjacent property, such use should be restrained until the facts on which the rights of the parties depend can be properly determined at the final hearing of the case.

In this case there was evidence on the part of the plaintiff, direct and specific, that the erection and use of a hospital in that particular locality, in the manner and for the purpose proposed, would be a source of real danger to the lives and health of numbers of people living in that vicinity, and while the affidavit of the defendant himself made specific response, a large portion of the supporting evidence offered by the defendant was very general in its terms, and made without reference either to the special locality or to the special manner in which the particular hospital was to be constructed and carried on.

If the defendant desired to proceed with the construction of his buildings and risk the results of the trial, the restraining order might be modified to that extent, but any and all use of the buildings for the purposes indicated should be restrained to the hearing.

A Physician Suing for Services is Subject to Cross-Examination.

The Supreme Court of Colorado says, on the appeal of Purse vs. Purcell, that the latter-named party, a licensed physician, brought this action to recover the reasonable value of professional services, which, at the defendant's request, he rendered to the defendant's children who were sick of scarlet fever.

The answer denied that the services were of any value whatever, and alleged that the plaintiff prescribed for and attended five of the defendant's children, two of whom the defendant admitted, had scarlet fever and diphtheria, and said the others had diphtheria, but not scarlet fever—though the plaintiff treated all of them only for the latter—and that, by reason of the defendant's negligence, or want of skill, in making the proper diagnosis and prescribing the appropriate treatment, three of the children died. Substantially the same matters, alleged as a defense, were set up in two separate cross-complaints or counterclaims, in each of which the defendant asked judgment against the plaintiff in the sum of $5.000 for malpractice.

The court is clearly of opinion that a case of malpractice was not made out by the evidence. Indeed, the defendant did not in his brief press his claim in that behalf, apparently because his own expert evidence precluded a judgment in his favor. It also says that, in the absence of any evidence of value to the contrary, or of evidence inconsistent with the plaintiff's testimony as to the extent or character of the services, it might be that the jury ought to find in the plaintiff's favor for the amount claimed. But it thinks that prejudicial error was committed in limiting the scope of the cross-examination of the plaintiff by the defendant's counsel, for had the questions on cross-examination been allowed, and the plaintiff required to answer, the jury might have found, on substantial evidence, that the services were of less value, or not so extensive as the plaintiff said they were.

The plaintiff, the court says, testified in his own behalf merely to the effect that he was a licensed physician and had, at the defendant's request, attended the latter's children, and that the bill for which he sued was the customary and reasonable fee, no part of which had been paid. In his complaint he alleged that the children were sick with scarlet fever, and that the services rendered were on that account. On cross-examination he was asked, among other things, by the defendant's counsesl, what was the matter with the children, what medicine he gave them, and was asked to describe to the jury their symptoms, and all the indications of disease which they exhibited. As throwing light on the extent and value of the services, as well as bearing on the diagnosis and method of treatment, it was competent under the issues to ask such questions.

The questions propounded were germane to the first defense of the answer, which denied that the services which the plaintiff rendered were of any value to the defendant. It was necessary for the plaintiff to prove that his services were of value, and when he himself testified as to that issue, the defendant might properly, by cross-examination, ask what the services were, and what the plaintiff did, and as to the symptoms and nature of the malady from which the children were suffering.

But if the questions propounded by the defendant had been answered by the plaintiff, it might be that there would have been evidence before the jury from which they might have concluded that the plaintiff's services were not so valuable as he claimed them to be.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

June 25.

1 *Surgical Shock. G. Crile, Cleveland, Ohio.
2 Achondroplasia. W. N. Bullard and A. W. George, Boston.
3 Alpha-monobrom-Isolvalerylurea. A New Nerve Sedative and Somnifacient. W. H. Porter, New York.
4 *Local Treatment of Acute Inflammations of the Throat from the Standpoint of Pathology. J. L. Goodale, Boston.

1. **Surgical Shock.**—Crile omits theoretic discussion and deals with certain phases of shock in their relation to surgical practice. Repeated and accurate observations on the blood picture may differentiate between hemorrhage and shock. He discusses certain preventable factors, dwelling particularly on the psychical element which does not receive adequate attention, and warns against overanesthesia.

4. **Inflammations of the Throat.**—Goodale thinks that in a beginning tonsillitis antiseptic applications may perhaps be used with benefit and their effect, if any, will be to abort the local infection. If the disease is not checked at the outset by the sterilization of the parts, but proceeds to the formation of white spots in the crypts with systemic involvement, further application of antiseptics may be not only useless but

harmful. It would appear possible that antiseptics may retard convalescence in two ways: *First*, by *diminishing* the number of bacteria in the crypts, which are generating toxin, and consequently prolonging the period required for the formation of the requisite amount of antibodies; second, by their destructive action on the tissue cells and phagocytic leucocytes of the host. Forcible application of antiseptics may be followed by increased fever and cervical adenitis, indicating heightened absorption of toxin into the system. This phenomenon may be compared to the depression which follows the infection of too large a dose of vaccine in patients undergoing opsonic treatment. In certain cases in which acute tonsillitis appears to be aborted by local antiseptics, inflammatory manifestations may follow after a day or two in the neighboring regions and last for a number of days or several weeks. Here, the possibility is suggested that the checking of the tonsillitis checked also the establishment of immunity, and that for its final accomplishment a longer period of growth of the organism on the membranes of the nose, larynx, trachea or bronchi was necessary. In this connection may be recalled the protracted duration of nasal diphtheria, as compared with the relatively brief time occupied by the pharyngeal disease.

Medical Record, New York.

June 27.

5 *Method of the Spread of Yellow Fever. W. C. Gorgas, Ancon, Canal Zone.
6 *Influenza: Its Diagnosis from a Morphologic Standpoint in Stained Specimens of Sputum. G. W. Stiles, Washington, D. C.
7 Liver Symptoms in Cardiac Disease. L. F. Bishop, New York.
8 Adverse Suggestion. A. F. Riggs, New York.
9 Relation of Pleurisy to Pulmonary Tuberculosis. H. S. Goodall, Lake Kushaqua, N. Y.

5. **Yellow Fever.**—Gorgas describes the methods used in suppressing yellow fever in Havana and in the Canal Zone. He shows how the reduction in numbers of the stegomyia, even though short of extinction, can eliminate the disease. With a hundred stegomyiæ to the square yard the introduction of a yellow-fever patient means the probable infection of many mosquitoes which will convey the disease to non-immunes present in the community, and each fresh case is likely to infect more mosquitoes and through them more non-immunes. As the number of mosquitoes is gradually reduced to 50, 25 and 15 to the square yard, the chances of an epidemic become smaller and the epidemic itself milder. By the time the mosquitoes are reduced to 10 per cent. of the original number, even if a yellow-fever patient is introduced, the chances of his being bitten, and thus infecting a mosquito, are minimized; and while it is possible with ten mosquitoes to the square yard for one mosquito to become infected and give yellow fever to some other non-immune in the same house, it is not probable that this second yellow-fever case will infect a second stegomyia. A certain number of mosquitoes are necessary for the propagation of yellow fever, but this number is ordinarily largely exceeded in yellow-fever countries. While it is probably impossible under any sanitary organization to exterminate the stegomyiæ altogether, it is possible to reduce them below the yellow-fever point, but so long as the number remains above this point we shall continue to have yellow fever when non-immunes are present, no matter how much we fumigate or how carefully we isolate the sick. Gorgas regards this as a reasonable explanation of the disappearance of yellow fever, before we knew of its propagation by mosquitoes, from Philadelphia, New York, Boston and Quebec, cities in which the stegomyia is not normally found, but used to be carried there on the sailing vessels.

6. **Influenza.**—Stiles reports a hundred tabulated cases of suspected influenza, in which examination of the sputum was undertaken with a view to determining the trustworthiness of a method of diagnosis based on the morphologic characters alone of the organism found in the sputum. Several slides were made from each specimen, and, after drying in air and gently fixing by heat, were stained with alkaline methylene blue and dilute solution of carbolfuchsin (about one part to eight or ten of water). He describes the characters of the *Bacterium influenzæ*, and concludes as follows: 1. In view of the results obtained from this series of cases, I can not too strongly emphasize the necessity of making a routine microscopic examination of sputum from cases manifesting general respiratory symptoms of disease. No matter what the previous diagnosis may have been from the symptomatology alone, further light on the condition of the patient may be obtained from a microscopic study of the sputum. 2. Valuable information may be obtained from a brief study of well-stained specimens of sputum from suspected or complicated cases of influenza. 3. A few cases resembling tuberculosis may be due to infection of influenza bacilli alone or to a mixed infection of the two organisms.

New York Medical Journal.

June 27.

10 *Theoretical Considerations and Experimental Work Relative to Opsonins, with Observations at the Saranac Laboratory. E. R. Baldwin, Saranac Lake, N. Y.
11 *Opsonic Treatment of Disease. G. M. Illman, Philadelphia, and H. A. Duncan, Philadelphia.
12 *Tuberculin Inunction. E. Moro, Munich, Germany.
13 Ocular Tuberculin Test. A. L. Benedict, Buffalo, N. Y.
14 Ocular Tuberculin Reaction in Diagnosis of Tuberculous Conditions. H. H. Pelton, New York.
15 *Mercury and Tuberculosis. W. F. Bernart, Chicago.
16 Porto Rico as a Field for Research in Tropical Medicine. B. K. Ashford, Washington, D. C.
17 Acute Syphilitic Nephritis. J. Ballagi, Homestead, Pa.
18 Results Obtained from Use of Diphtheria Antitoxin Refined and Concentrated by Gibson's Method. R. E. Wodehouse, New York.

10. Abstracted in THE JOURNAL, May 30, 1908, p. 1818.

11. **Opsonic Therapy.**—Illman and Duncan summarize their results with opsonic treatment in 30 cases, of which 13 were tuberculous, 5 gonorrheal, 6 staphylococcic, 3 streptococcic, 1 mixed, 1 colon, and 1 typhoid. Their conclusions are practically as follows: Vaccine therapy offers a chance of cure in many cases of disease heretofore regarded as incurable. In the large majority of cases stock vaccines are just as efficient as autogenous vaccines. Patients can be treated with fewer actual index observations than was at first supposed. Patients treated with clinical phenomena alone as a guide should only be so treated by some one well versed in vaccine therapy, and then only after having been under previous observation for a period long enough to have determined "the phase" the patient is in. Very small initial doses should be employed when the opsonic index has not been previously determined. The best results at the present time are obtained in tuberculous conditions and staphylococcic or streptococcic infections, as in acne. To get the best results vaccine treatment must be instituted as soon as the diagnosis is made. They report the thirty cases in detail.

12. **Tuberculin Inunction.**—Moro recommends as a substitute in many cases for the ocular and subcutaneous tuberculin reactions the following method: Koch's old tuberculin, 5 c.c.; anhydrous wool fat, 5 gms. A piece the size of a pea is rubbed into the skin of the chest or abdomen for about half a minute over an area of four square inches. On the following day, or later, the appearance of small papules which last for about a week indicates a positive reaction. Moro asserts that a positive result by this method is as conclusive as those of Calmett's or v. Pirquet's methods. The method is said to be entirely harmless.

15. **Mercury in Tuberculosis.**—Bernart, as the result of observation in the treatment of 422 syphilitics, of whom many were tuberculous, by intravenous injections of mercury, arrives at the following conclusions:

1. The control of the active syphilis in many of the tuberculous patients seemed for the time to benefit the tuberculosis also.
2. In patients with pulmonary tuberculosis, after the first control of the syphilis and if the treatment was continuously pushed, a few months would show a gradual aggravation of the tuberculosis.
3. The genitourinary tuberculous patients, outside of the benefit to their syphilis, showed no improvement in their tuberculosis.
4. Two patients with tuberculous eye trouble were benefited, one markedly so and the other but moderately so. This is not surprising, as the intravenous injections of mercuric chlorid exert a decided and beneficial influence over infections and ulcerations of the eye.
5. The patients with pulmonary tuberculosis, evidently suffering from the absorption of septic materials, probably due to a second

any germ infection, were decidedly benefited up to a certain point, after which, if the mercurial treatment was continued, their retrogression was rapid

Medical Fortnightly, St. Louis.

June 10

19 *A Plea for Prompt Use of Retrograde Catheterization in Surgical Treatment of Impassible Stricture of the Urethra E Jonas, St. Louis
20 Visiting Far Cathay. R G Eccles, Brooklyn, N Y

June 25

21 Ectopic Gestation. E Walker, Evansville, Ind
22 Why Do Young Men Crowd into the Professions? A L Benedict, Buffalo, N. Y.
23 Glimpses of Early St. Louis Medical History. W. B Outten St. Louis

19. **Retrograde Catheterization in Stricture.**—Jonas considers that there has been an unjustifiable lack of progress in treating benign urethral strictures, which he attributes in part to the want of surgical training in the older genitourinary physicians and to the public dread of operations on the penis. Treatment of strictures with sounds should be reserved for strictures of moderate size, frequently called of large caliber. For strictures of small caliber, and those admitting only a filiform bougie, urethrotomy is better, preferably external urethrotomy (except in strictures of the pendulous urethra, when internal urethrotomy may be chosen) Jonas favors urethrotomy in all cases in which the urethra can not easily be kept open by bougies, or in patients with pain or annoying symptoms, even when it is possible to pass a sound of normal size. All scar tissue should be completely excised When in external urethrotomy it is impossible to pass a filiform bougie, an attempt may first be made to find the proximal opening of the urethra from the perineal incision but failing speedy success, the bladder should be opened above the pubis and a sound should be passed through the bladder to the perineum (retrograde catheterization). The sound point acts as a guide to slit open the urethra The wound of the bladder and the abdominal incision are closed at once, the prevesical tissue being safeguarded by a small cigarette or tubular drain.

Surgery, Gynecology and Obstetrics, Chicago.

May

24 Hemorrhage from the Stomach and Duodenum W J Mayo, Rochester, Minn
25 False Diverticula of the Appendix H Upcott Hull, Eng
26 Case of Primary Ovarian Pregnancy C C Norris and C B Mitchell, Philadelphia
27 *Surgical Treatment of Cancer of Sigmoid and Rectum B G A Moynihan, Leeds Eng
28 Intermittent Hydrops of Joints W Healy, Chicago
29 *Syncytioma or Chorioepithelioma of the Placenta E P Davis Philadelphia
30 Dawn of Modern Military Surgery N Senn, Chicago
31 *Ureteral Calculi J H Gibbon, Philadelphia
32 *Cesarean Section E Reynolds, Boston
33 Prolapse of the Female Urethra G F B Simpson, Edinburgh, Scotland
34 *Conditions That Require Removal of the Child from the Breast C B Reed, Chicago
35 Successful Treatment of Chronic Gonorrheal Endometritis G Kolischer Chicago
36 Simplified Technic for Supravaginal Hysterectomy W Bartlett, St Louis
37 *Improved Hodgen Splint for Fractures of the Thigh G S Brown, Birmingham Ala
38 Simple Hysterectomy in Simple Cases A H Ferguson, Chicago

27. **Cancer of Sigmoid**—Moynihan endeavors to show that the descending colon and the upper part of the sigmoid flexure retain their vitality after the sacrifice of the inferior mesenteric artery and that the mobilization of the colon and the splenic flexure permits considerable displacement of these portions of the bowel, and argues that in all cases of carcinoma of the sigmoid or of the rectum, whether high or low (the proctodeum excepted), an abdominal operation seems advisable, for by this route only can the whole lymphatic territory be extirpated He describes the procedure necessary in a case of growth about the middle of the sigmoid

29 **Chorioepithelioma of Placenta.**—Davis reports a case and discusses the literature of the subject He urges the importance of examining the placenta in all cases in which pregnancy is interrupted after the fourth month Ballantyne's statement that the placenta is the key to fetal pathology should be kept in mind in all cases in which the fetus is still-born or the pregnancy is interrupted after the placenta is formed If chorioepithelioma is found, *attention must be directed to the mother.* All cases of pregnancy complicated by anomalous hemorrhage should arouse the suspicion of chorioepithelioma malignum He asks: "Shall the operator who detects chorioepithelioma of the placenta proceed immediately to hysterectomy as soon as the patient's condition justifies it, or shall he content himself with a thorough examination of the patient under ether, including curetting, and the microscopic examination of the scrapings? If these procedures give no evidence of chorioepithelioma, is he justified in allowing the patient to pass from his observation without hysterectomy?"

31 **Ureteral Calculi.**—Gibbon reports six cases, and discusses the pathology, symptoms, diagnosis and treatment, considering the operative treatment as it is applicable to stones situated in the upper third, the lower two thirds, and the vesical portion of the ureter respectively. He discusses various routes and operations, and urges the advantage in doubtful and difficult cases of the combined intraperitoneal and extraperitoneal operation

32. Abstracted in The Journal, March 14, 1908, p 911.

34. **Removal of Child from Breast.**—Reed reviews observations of the effect on the child of drugs administered to the mother It seems probable that alcohol, opium, chloroform, ether, thyroid extract and lead should be used with extreme care in a nursing woman until their status is determined; that zinc apparently has no effect, while all the other drugs investigated, atropin, arsenic, antipyrin, acetic acid, bismuth, potassium bromid, balsam of copaiba, castor oil, copper, chloral, iodin and its compounds mercury, phenacetin, quinin, salicylic acid and senna—pass over in small quantities in the milk, but rarely to a degree injurious to a sensitive babe The child, therefore need practically never be removed from the breast on account of their administration Nephritis, serious and obstinate erosion and fissure of the nipple, Paget's disease, scirrhus, sarcoma or abscess of the breast, together with local or systemic tuberculosis syphilis, erysipelas, acute articular rheumatism, acute pulmonary or pleuritic affections, and all infections and contagious diseases, osteomalacia, and all puerperal infections that are not mild and transitory in character demand the absolute separation of mother and child.

37. Abstracted in The Journal, Jan. 25, 1908, p 310.

American Journal of Medical Sciences, Philadelphia.

May

39 *Analysis of One Hundred and Forty Operations on the Kidneys and Ureters G F Brewer, New York
40 *Epidemiology of Acute Poliomyelitis L E Holt and F H Bartlett, New York
41 *Suppurative Phlegmonous Gastritis J W Bovee, Washington, D C
42 *Gallop Rhythm of the Heart G C Robinson, Philadelphia
43 Toxemia from Standpoint of Perverted Metabolism R W. Webster, Chicago
44 *Relaxed Knee Joint A H Freiberg Cincinnati
45 Primary Colloid Carcinoma of the Appendix E H White, Montreal
46 *Management of Labor in Minor Degrees of Pelvic Contraction with Reference to the Relative Indications for Abdominal Cesarean Section H D Fry, Washington, D C
47 *Clinical and Pathologic Aspect of Rodent Ulcer G McConnell St Louis
48 Erysipeloid of Rosenbach J H Jopson, Philadelphia
49 Symptom Complex of Transverse Lesion of the Spinal Cord and Its Relation to Structural Changes Therein A R Allen, Philadelphia

39 Abstracted in The Journal, Feb 29, 1908, p 719.

40 **Acute Poliomyelitis.**—Holt and Bartlett present as complete a collection as possible of the epidemics of this disease so far reported, 35 in all, excluding the New York (1907) epidemic, which is to be made the subject of a special report by the medical societies They discuss the data on *communicability*, and conclude that this is unquestionably *an infectious disease*, but whether it is communicable is open to question. They believe that it is communicable but only to a slight degree. They give a tabulation of the principal facts regarding the thirty five epidemics, together with references to the literature.

41. Abstracted in The Journal, Jan. 25, 1908, p. 311.

42 **Gallop Rhythm.**—Robinson summarizes his paper as follows: Gallop rhythm of the heart is a fairly frequent clinical phenomenon, which consists in the presence of a group of three cardiac tones, none of which are murmurs It occurs under variable clinical conditions That form of gallop rhythm which is best heard at the apex, or over the central part of the precordium, may be divided into the presystolic protodiastolic and mesodiastolic types, depending on whether the extra tone falls at the end at the beginning or in the middle of each diastole Each form is associated with a characteristic cardiogram There are a number of factors which probably combine in various ways to produce the various forms of gallop rhythm Presystolic gallop rhythm is heard in two classes of cases It is heard in strongly acting hearts in which a muscle sound produced by a strongly acting, hypertrophied auricle is probably the cause of the extra tone; and in weak, rapidly acting hearts at the height of acute febrile diseases, at which time there is possibly a delay in the conduction of the heart beat from the auricles to the ventricles Under these circumstances the sound produced during the contraction of the auricles becomes distinguishable from that produced during the contraction of the ventricles In both classes of cases the extra tone seems to be produced in the auricle rather than in the ventricle Protodiastolic and mesodiastolic gallop rhythm are caused by the production of an extra tone in the ventricles The factors that probably combine to produce this extra tone are an increase in the amount and velocity of the flow of blood from the auricles into the empty ventricles and a loss of tone of the heart muscles of the ventricles The longer silent period in cases of gallop rhythm does not usually occur during diastole, but is generally a systolic silence

44 Abstracted in The Journal, Jan 18, 1908, p 233

46 **Pelvic Contraction.**—Fry emphasizes the importance of early surgical intervention before the woman has gone through the exhaustion of prolonged labor pains, and particularly before employing forceps and manipulations that may produce infection It is incumbent on the general practitioner to learn to recognize early the cases of disproportion between the infant's head and the maternal pelvis Pelvic deformity is much more frequent than is generally supposed He describes the varieties of deformity and says that pelvimetry should be performed at the eighth month of pregnancy in all primiparæ, and in those multiparæ who have passed through difficult labors He discusses in detail the three lines of treatment open in minor degrees of pelvic contraction discovered in the thirty second week: (1) The induction of premature labor; (2) elective Cesarean section; (3) delay until labor has demonstrated the resources of Nature; then (a) spontaneous delivery. (b) version; (c) axis traction forceps; (d) Cesarean section, (e) symphyseotomy or pubiotomy; (f) craniotomy.

47. **Rodent Ulcer.**—McConnell discusses the literature of rodent ulcer and analyzes 16 cases from the St Louis Skin and Cancer Hospital. Both gross and microscopic appearances were practically alike in all cases Contrary to Bland-Sutton's statement that rodent ulcer never cicatrizes, in one of these cases it had done so to a remarkable extent McConnell describes the histologic findings minutely and emphasizes the characteristic formation of the cell nests, the marked fragmentation of elastic tissue, and the fact that in one case which came to autopsy, no infiltrated nodes were found nor were there any metastases to distant structures; from which he argues the probability of permanent cure by early excision. A number of patients were treated by *x* rays for varying periods without permanent benefit The lesion and symptoms would seem to improve the patient would stop coming, and would return later when the lesion had broken down Excision followed by *x* ray treatment gave the best results

Bulletin of the Johns Hopkins Hospital.

May

50 John Syng Dorsey The Secret of His Success A Robin, Washington, Del
51 Intestinal Anastomosis Without Open Incisions by Means of Basting Stitches. E M. Parker and H H Kerr, Washington, D C
52 A Clinical Study of the Alkalinity of the Blood S Strouse, Baltimore
53 *Cardiohepatic Angle. W. J. Calvert, Columbia, Mo

53. **The Cardiohepatic Angle.**—Calvert says that clinically the value of the cardiohepatic angle in pericarditis is not decreased in the early stages of the development of dilatation of the left auricle, because the signs of the mitral lesion would be present. In enlarged hearts the lesion must be determined before an increased cardiohepatic angle is differential for an associated pericardial effusion In extreme dilatation of the heart, when differentiation from pericarditis is the most difficult, the cardiohepatic angle is of little value, unless the history of the case is known: even then it is, at best, uncertain. When pericardial effusion can be positively excluded, an increase in the cardiohepatic angle becomes a sign of mitral stenosis, because this lesion most frequently causes extensive dilatation of the left auricle and displacement of the root of the lung. When the history of the case is known, allowing heart lesions to be excluded, an increase in the cardiohepatic angle retains the value in pericarditis with effusion given to it by Ebstein and others.

California State Journal of Medicine, San Francisco.

May

54 The Weber Murder; Was Adolph Weber Insane? R. F. Rooney, Auburn
55 *Fallaciousness of So called Pathognomonic Signs in Diagnostic Work C M Cooper, San Francisco
56 Reaction of Anaphylaxis L S Mace, San Francisco
57 Development of the County Medical Society W T Barry, Santa Barbara.
58 A Nerve Sedative. C. Renz, San Francisco.

55 **Fallaciousness of Diagnostic Signs.**—Cooper considers that the McBurney point has been given a pathognomonic significance which it does not merit, and has caused many innocent appendices to be operated on The continuous presence of occult blood in the stools can not be relied on to indicate alimentary carcinoma Chronic apical catarrh may indicate influenza and not tuberculosis. Acid-fast bacilli may be found in non tuberculous ailments Lung tissue in the sputum does not necessarily indicate an intrapulmonic purulent collection. A diastolic puff over the aortic and pulmonary valves is sometimes due to mechanical diastolic movement of air in the neighboring lung tissue. Both leucocytosis and fever may be absent in malignant endocarditis. Cooper doubts the diagnostic value of pulsus alternans as to loss of contractibility of cardiac muscle, etc. He suggests that: 1. The time has come to state and to teach that there are no pathognomonic signs of the individual diseases, that the presence of such signs forms only one link in the diagnostic chain, and in no way excuses neglect of thorough and, if necessary, repeated investigations of our patients. 2. The use of pathognomonic terms such as gallstones crepitus and ureteral clots would better be discarded.

Northwestern Lancet, Minneapolis.

May 1.

59 *Diagnosis and Treatment of Extrauterine Pregnancy. G C Barton, Minneapolis.
60 Tact in the Practice of Medicine A D Hard, Marshall, Minn.
61 Cardiospasm; Functional Stenosis of the Esophagus at the Cardia. O R Bryant Minneapolis

May 15

62 Methods of Diagnosis in Some of the Clinics of Germany. L A Nippert, Minneapolis
63 Diagnosis and Treatment of Pneumonias in Childhood J. T. Christison, St Paul
64 Southern Travels C J Ringnell, Minneapolis
65 Optic Neuritis Due to Chronic Empyema of the Frontal and Anterior Ethmoidal Sinuses W. R Murray, Minneapolis

59 **Extrauterine Pregnancy.**—Barton describes a peculiar case in which, besides the left ruptured tubal pregnancy for which operation was done, there was a distention of the right tube with serous fluid and blood, which did not have the characteristics of a hydrosalpinx. He suggests the possibility of there having been a pregnancy in both tubes. He discusses the diagnosis of extrauterine pregnancy and regards irregularity in the menstrual flow as the most constant symptom. He agrees with those who think that with proper judg-

ment more lives would be saved if we were to wait a few hours until shock is over before operating. He believes that the shock is not entirely due to the hemorrhage, but that the sudden pain and the fear of dissolution are factors in it also.

Journal of the Missouri State Medical Association, St. Louis.

May.

66 Status of the Medical Profession R H. Goodier, Hannibal
67 *The Roentgen Ray in the Diagnosis of Renal and Ureteral Calculi. R D Carman, St. Louis
68 Relation of Salts to the Heart Beat W W. Duke Kansas City.
69 *Effect of Surgical Operations on Diabetic Patients L T Riesmeyer, St Louis
70 Peritoneal Tuberculosis J D Seba, Bland

67. This article was published in the *Interstate Medical Journal*, May, 1908.

69. **Surgical Operations on Diabetics.**—Riesmeyer points out that even in cases in which the general constitution of the patient seems to guarantee a good result coma and death have followed operation, while in relatively far advanced cases good results of operative intervention and improvement in diabetic symptoms have followed. It is wise to prefer palliative measures in small ailments, such as ingrown toenail, and even corns. That a good result will ensue can not be foretold with exactness, so that prognosis must be cautious General anesthesia, especially chloroform, increases the danger of coma. On the whole, the prognostic significance of operation on diabetic patients may be somewhat modified by sustaining the nutrition, the strength and the resisting power of the body by preventing or counteracting acidemia, and by reducing infection and the duration of operative procedures to a minimum.

Journal of the South Carolina Medical Association, Greenville.

May

71 The Great Black Plague L Guerry, Columbia
72 *Treatment of Fractured Patella T Maddox, Union

72. **Fractured Patella.**—Maddox had to operate in a case in which only catgut was available for suture of the patella The patient did well and is now, years afterwards, in excellent condition. Maddox considers that there is no need, if bony union is effected in from 10 to 20 days, for leaving sutures longer, and he believes strong catgut the best material

Illinois Medical Journal, Springfield.

May.

73 What the Illinois State Board of Charities Is Accomplishing W. G. Graves, Springfield
74 Medical Administration of State Charitable Institutions. F P Norbury, Jacksonville
75 What the Civil Service Commission Is Accomplishing W. B Moulton, Chicago.
76 Early Diagnosis of Pulmonary Tuberculosis E H. Butterfield, Chicago.
77 *Arteriosclerosis of the Nervous System H. T. Patrick, Chicago
78 *Vaccine Treatment of Gonorrhea in Female Children W. J Butler and J P Long, Chicago
79 Inflammatory Conditions Within the Abdomen and Thorax Differentiated from Appendicitis C J Whalen, Chicago

77. Abstracted in The Journal, March 28, 1908, p 1069

78. This article was published in The Journal, March 7, 1908, p. 744

Military Surgeon, Carlisle.

May

80 *An Operation for Varicocele G F Freeman, U S Navy
81 Simple and Double Continued Fevers of the Philippines H. J Nichols, U S Navy
82 Epidemic of Typhoid Fever at Iloilo. E H Bruns, U. S Army.
83 Epidemic Typhoid with Special Reference to Contact Infection L A LaGarde U S Army.
84 A Small Typhoid Epidemic. L C Duncan, U. S Army
85 A Honolulu School of Tropical Medicine: Life History of an Idea. E. S. Goodhue Kealapekua, Hawaii
86 Practical Portable X Ray Equipment for Army Field Service J. A Metzger, U S Volunteers

80. **Operation for Varicocele.**—Freeman describes an operation for which he claims the advantages that no material is left for absorption; shortening of the scrotum by transverse suturing of the external wound at the time of the shortening of the structures within; simplicity: removable sutures for tying the varicose mass that would at the same time safeguard against hemorrhage The article is illustrated.

Pennsylvania Medical Journal, Athens.

May

87 Oration in Dermatology H W. Stelwagon, Philadelphia.
88 *Treatment of Acute Infections of the Female Pelvic Organs F. H. Maier, Philadelphia.
89 *Treatment of Pelvic Abscess F C. Hammond, Philadelphia
90 *Ovarian Tumors Complicating Pregnancy and the Puerperium W. Krusen, Philadelphia.
91 *Treatment of Eclampsia J. C. Applegate, Philadelphia
92 *Treatment of Terminated Ectopic Pregnancy. C A Stillwagon, Pittsburg.
93 *Treatment of Dysmenorrhea by Forcible Dilatation of the Cervical Canal and Application of the Wylie Drain H D Beyea, Philadelphia
94 *Sliding Hernia J. D Singley, Pittsburg
95 Old Friends in New Clothes S J McGhee Mill Hall
96 Why Pennsylvania Should Build, Equip and Maintain a Hospital for the Restraint, Care and Treatment of Inebriates and What the Hospital Should Be J. B Carroll, Hatboro

88 to 91. Abstracted in The Journal, Nov. 16, 1907, p. 1706

92. Abstracted in The Journal, Nov. 9, 1907, p. 1624.

93. Abstracted in The Journal, Nov. 16, 1907, p. 1706

94. **Sliding Hernia.**—Singley directs attention to this inadequately considered condition and describes the method of dealing with it. He emphasizes the importance of seeing clearly all sides of the external surface of the neck of the sac in inguinal hernia, and of ligating it in full view, low down, if necessary. If ligated low down it may be dislocated, if desired according to one of the several methods in vogue

West Virginia Medical Journal, Wheeling.

May

97 President's Address Before West Virginia State Medical Association (concluded). F Howell, Clarksburg.
98 Clinical Aspects of Appendicitis. W. W. Golden, Elkins
99 West Virginia Institutions L V. Guthrie, Huntington
100 The Social Evil: What Shall We Do with It? J. C. Irons, Elkins
101 Maternal Impressions. T. M Hood, Clarksburg.
102 Case of Fracture of Larynx. C. M Hawes, Huntington
103 The Fraternal Spirit R J Reed, Wheeling.

Journal of the Medical Society of New Jersey, Orange.

May

104 *Value of Some Modern Laboratory Methods for the Practitioner. F C Wood, New York.
105 Trichiasis T R Paganelli, Hoboken
106 Relation of Physician and Pharmacist to the United States Pharmacopeia and National Formulary. W. C. Anderson, Brooklyn, N Y
107 Doctor and Druggist C. J. McCloskey, Jersey City.

104. **Laboratory Methods.**—Wood deals with blood examinations in their relation to the malarial parasite, leucocytosis, *Filaria nocturna*, the *Spirochata pallida*, agglutination tests, the opsonic index, etc., and also the examination of the stools in cases of severe anemia, for the eggs of bothriocephalus. The irrigation method, washing out the lower intestine once or twice daily with high irrigation of physiologic salt solution in pernicious anemia is recommended. He cautions against paying too great attention to the leucocyte count to the exclusion of physical examination, and discusses the differentiation of pneumonia and typhoid by blood examination. Leucocytosis is also an aid in prognosis, *e. g.*, in appendicitis. The Widal test has proved one of the most useful of laboratory diagnostic methods. Wright's vaccine treatment, owing to the complexity of its methods, will probably be left to special laboratories. The topical tuberculin test for tuberculosis—by the skin and the eye—is discussed, and the author considers that the latter would prove valuable if a purified and standardized tuberculin could be obtained. The article, being didactic, hardly lends itself to abstraction.

Therapeutic Gazette, Detroit.

May.

109 *Analysis of Psychotherapeutic Methods F. X Dercum, Philadelphia
110 Treatment of Enlargement of the Prostate W. Karo, Berlin
111 Medicinal Treatment of Pulmonary Tuberculosis G L Haefele, Cleveland
112 Bier's Method in Treatment of Some Neuroses A. Gordon, Philadelphia

109 **Psychotherapy.**—Dercum says that we should always bear in mind that symptoms have a physical basis, and this is

especially true of functional nervous disease. Exhaustion plays a fundamental rôle in all cases, and when the general level of the mental tone is raised obsessions disappear (Janet), so that the bringing up of the general health to the highest possible level is the first thing. To this end simple physiological procedures, rest, full feeding, gentle exercise, massage, bathing, etc., should be instituted in every case. In obsessional states there is essentially a neurasthenia or "psychasthenia." In addition to rest and physiologic measures, mental rest by isolation, retraining of the patient, and later special mental exercises or gymnastics are advised. Judicious normal suggestion should be used, including such explanation of the patient's condition as may be adequate and tactful, pointing out that the symptoms are functional and will disappear. Suggestion under hypnotism he regards as rarely, if ever, justified. Psychoanalysis will probably not find a permanent place in therapeutics.

Ohio State Medical Journal, Columbus.

113 Acute Yellow Atrophy of the Liver. D. B. Conklin, Dayton.
114 Diagnosis of Surgical Diseases of the Kidneys. G. M. Todd, Toledo.
115 Spinal Curvature Arising from the Improper Seating of School Children, and Its Prevention. W. G. Stern, Cleveland.
116 Mechanical Treatment of Habitual Constipation. W. Teachnor, Columbus.
117 Statistical Consideration of Six Hundred General Anesthesias. R. Carothers, Cincinnati.
118 *What the Profession May Do in Matters of State. J. M. Howell, Dayton.

118. Abstracted in The Journal, Sept. 28, 1907, p. 1140.

Washington Medical Annals.

May.

119 *Acid Intoxication. J. B Nichols, Washington.
120 Differential Diagnosis of the Chronic Non-tuberculous Joint Affections J. Dunlop, Washington.
121 Clinical Studies in Organotherapy. I. H. Lamb, Washington.
122 Perkins' Metallic Tractors. D. S Lamb, Washington.
123 Easy Methods of Carrying Out the Principles of Aseptic Surgery. R. Reyburn, Washington.

119. **Acid Intoxication.**—Nichols discusses the physiologic chemistry of this condition and summarizes the four principal hypotheses as to the agents actually producing the toxic phenomena: (1) That the acetone bodies are themselves the toxic agents—which view he considers entirely inadequate; (2) that beta-oxybutyric and diabetic acids exert their deleterious action by virtue of their acidity; (3) that the harmful effects are due to the withdrawal of diminution of the bases of the body; (4) that the real toxic agents are some unknown precursors or associates of the acetone bodies. The condition, even in marked and serious form, occurs much more frequently than is generally realized, and he suspects that many obscure features that puzzle the clinician as in peculiar forms of indigestion, shock, uremia, etc., are dependent partly on an element of acidosis. The free administration of alkalies, while it produces no results in some cases, should nevertheless be tried in all severe cases. He recommends sodium bicarbonate 15 or more grams (225) grains daily. In addition, calcium carbonate, 3 grams (45 grains) daily, and sodium citrate, 5 grams (75 grains). When alkalies can not be given by the mouth they may be administered by rectum, subcutaneously or even intravenously.

Southern California Practitioner, Los Angeles.

May.

124 *Cases of Benign and Malignant Diseases of the Pancreas. C. E. Zerfing, Los Angeles.
125 *Surgery of the Pancreas. R. P. McReynolds, Los Angeles.
126 Phases of the Physiology of the Pancreas. L. B. Stookey, Los Angeles.
127 *Relation of Gastrointestinal Diseases to the Pancreas. L. G. Visscher, Los Angeles.
128 Mechanism of Shock in Acute Disease of the Pancreas. J. T. Fisher, Los Angeles.
129 Early Surgical Intervention in Pancreatic Diseases. A. S. Lobinger, Los Angeles.
130 Relation Between Cholelithiasis and Surgery of the Pancreas. W. A. Edwards, Los Angeles.
131 Public Health Work and the Medical Profession. G. H. Kress, Los Angeles.

124. **Diseases of the Pancreas.**—Zerfing discusses the anatomy, histology and physiology of the pancreas, and summarizes recent work in pathology. He considers in detail acute hemorrhagic pancreatitis and chronic interstitial pancreatitis.

125. **Surgery of Pancreas.**—McReynolds refers to the most important and special indications for operative interference: 1. Injuries to the pancreas from stab or bullet wounds, or severe contusions in the epigastric region. 2. Inflammations—(a) acute hemorrhagic pancreatitis; (b) subacute pancreatitis; (c) chronic pancreatitis. 3. Pancreatic cysts.

127. **Gastrointestinal Diseases and the Pancreas.**—Visscher discusses the diagnosis of pancreatic insufficiency, and describes the laboratory methods of determining the missing functions of lipolysis, proteolysis, and amylolysis. As to treatment, here, as elsewhere, "pipes and tubes get dirty, stopped up, kinked, or compressed," and "nothing but a plumber will do"—to-wit, surgical help. But when the ducts are open and the gland is not degenerated, but only inactive, potentially active, then we can stimulate pancreatic functions indirectly, by hygienic, mechanical, hydriatic and electric measures. We have in the carbohydrates a physiologic stimulus to pancreatic secretion; but this must not be overdone by trying to make the gland secrete more than it can.

Atlanta Journal-Record of Medicine.

May.

132 Weaning. H. McHatton, Macon, Ga.
133 Early Operation for Adenoids. A. W. Stirling, Atlanta.
134 Cases of Hydrocele and Spermatocele. W. L. Champion, Atlanta.
135 *Treatment of Sprains. T. Toepel, Atlanta.
136 Crushing Injuries of the Extremities. T. H. Hancock, Atlanta.

135. **Sprains.**—After definitely excluding fracture in a recent sprain Toepel recommends: (1) Exposure for one hour to heat to relax tension. (2) Massage by gentle friction, gradually increasing in force, then gentle kneading, long-continued, beginning at a distance from the injury and gradually approaching it. End with palmar percussion. (3) Bandaging tightly with a wet bandage and applying ice bags to keep down inflammation, insisting on perfect rest with the joint elevated for from twelve to twenty-four hours. On the second day the treatment should be repeated, omitting the ice and adding passive circumduction and passive flexion and extension. On the third day resistive movements should be added. Activity should be encouraged between treatments after the second day and the bandage removed permanently on the third or fourth day. A light sprain takes from 7 to 10 days for cure, a hip or shoulder sprain longer, and it is safer not to use the latter for another week.

Journal of Nervous and Mental Diseases, New York.

May.

137 Case of Meningeal Tumor Compressing the Cerebellum. H. Baldwin, New York.
138 Three Cases of Melancholia with Delusions of Negation. H. W. Mitchell and E. E. Southard, Danvers, Mass.
139 Two Cases of Spinal Cord Tumor and Trauma: Report of Two Cases. P. Bailey, New York.

Archives of Ophthalmology, New York.

May.

140 One Hundred Consecutive Cases of Cataract Extraction. J. L. Duncan, Pittsburg, Pa.
141 * the Eye. P. Fridenberg, New York.
142 olet Light on the Lens. C. Hess, Würz-
143 Cherry-Laurel Water in Collyria. J. A. Mc.

141. **Transillumination of the Eye.**—Fridenberg discusses transillumination of the eye by the Sachs transilluminator and the Würdemann transilluminator; he prefers the latter instrument. For some time he has been making transillumination a routine measure in ophthalmoscopic examination. A better reflex is obtained by applying the illuminating pencil far back near the equator of the globe, pointing it forward toward the anterior segment than under opposite conditions. The observer should look into the pupil in a line with the patient's gaze and not directly from in front as is usually done, unless the patient is looking straight ahead. He describes transillumination of the iris, the influence of the epithelial pigment layer of the iris on transillumination, as also the effect of opacities of the media, and suggests that the

ophthalmoscopic examination of the anterior segment of the fundus gives a much clearer and more brilliant picture if the retina anterior to the ora serrata is made self-luminous by applying the Sachs instrument to the sclera directly over the point to be examined.

Virginia Medical Semi-Monthly, Richmond.

May 22.

144 Gallstones. S. Lile, Lynchburg.
145 Diagnosis and Treatment of Coxalgia. K. Osterhaus, Norfolk.
146 Treatment of Epilepsy. J. A. Hodges, Richmond.
147 Epidemic Influenza Otitis Media; Sequelæ and Treatment. C. R. DuFour, Washington, D. C.
148 Complications and Sequelæ of Influenza. T. A. Parker, Richmond.
149 Conservative Treatment of Toothache. J. O. Hart, Ashland.

Journal of Ophthalmology and Oto-Laryngology, Chicago.

May.

150 Relation of Eyestrain to Epilepsy. M. B. Hodskins and G. A. Moore, Palmer, Mass.
151 Chronic Purulent Otitis Media. E. R. Ogden, Chicago.
152 Headache of Non-suppurative Frontal Sinuitis. F. Brawley, Chicago.
153 Unusual Constitutional Effects of Atropin Solution in the Eye. G. T. von Colditz, Chicago.
154 A New Style Tonsil Forceps. D. S. Hager, Chicago.

Montreal Medical Journal.

May.

155 Mayo's Surgical Clinic. A. L. Smith, Montreal.
156 Primary Carcinoma of the Appendix. A. E. Garrow and C. B. Keenan, Montreal.
157 Gunshot Wound Causing Rupture of Bowel, Without Damage to Peritoneum. J. C. Fyshe, Bangkok, Siam.
158 Spirochœta Pallida; Its Relation to Syphilis. R. P. Campbell, Montreal.
159 Opsonins and Opsonic Index; a Bibliography. A. R. Charlton, Montreal.

Long Island Medical Journal, Brooklyn.

May.

160 Benign Diseases of the Stomach and Duodenum. A. T. Bristow, Brooklyn.
161 Carcinoma of the Stomach. H. B. Delatour, Brooklyn.
162 Results of the Surgical Treatment of the Bile Passages. R. W. Westbrook, Brooklyn.
163 Results of Operations in Pancreatic Disease. W. G. Wood, Brooklyn.
164 Early Exploratory Laparotomy in the Diagnosis of Certain Diseases of the Upper Abdominal Digestive Tract. L. S. Pilcher, Brooklyn.

Journal of the Michigan State Medical Society, Detroit.

May.

165 Obstetric Service for the Laboring Classes and the Relation of the Midwife to It in Michigan. C. M. Davis, Lansing.
166 What the Public Should Know Concerning Venereal Disease. L. J. Hirschman, Detroit.
167 A Complete, Practical and Brief Examination of the Alimentary Tract. W. H. Enders, Jackson.
168 Abdominal Pain; Its Diagnostic Significance. H. W. Yates, Detroit.
169 Chronic Interstitial Nephritis and Its Relation to Recurring Paralysis. B. A. Shepard, Plainwell.
170 Rheumatism in Children. W. G. Hutchinson, Detroit.

Detroit Medical Journal.

May.

171 Chronic Ulcer of the Stomach and Duodenum. W. J. Mayo, Rochester, Minn.
172 Diagnosis and Treatment of General Peritonitis. M. Ballin, Detroit.
173 Inoperable Gastric Ulcer; Syphilitic Jaundice; Syphilitic Dyspnea. W. M. Donald, Detroit.

American Practitioner and News, Louisville.

June.

174 Neurasthenia and Its Relation to the Drug and Liquor Addictions. F. F. Young, Abbeville, La.
175 Mental and Nervous Diseases in General Practice. J. A. Flexner, Louisville.
176 Effect of Alcohol on Protoplasm. E. S. Allen, Louisville.

Ophthalmic Record.

May.

177 Method of Illuminating Test-Type Charts with Artificial Light. N. M. Black, Milwaukee, Wis.
178 Case of Right Homonymous Hemianopsia in the Macular Regions. W. C. Posey, Philadelphia.
179 Probable Tumor of the Pituitary Body with Optic Atrophy Following Premature Menopause. E. R. Wylie, Boston.
180 A Wire Lid-Elevator for Prevention of Loss of Vitreous Humor in Extraction of Cataract. E. Moraweck, Louisville, Ky.

Texas State Journal of Medicine, Fort Worth.

May.

181 Relation of the Tonsil to Systemic Infection. J. M. Woodson, Temple.
182 Toxemia of Pregnancy. R. J. Alexander, Waco.
183 Case of Severe Vertigo and Ataxia Complicating Chronic Suppurative Otitis Media; Operation; Recovery. J. H. Foster, Houston.
184 Can We Always Know When to Operate for Mastoiditis? E. H. Cary, Dallas.
185 Retrodisplacement of the Uterus. A. Herff, San Antonio. Id., R. R. White, Temple.
186 Acute Mastoiditis, Non-operative, Operative and Postoperative Treatment. W. D. Jones, Dallas.
187 Opsonins and Vaccine Therapy. K. H. Beall, Fort Worth.
188 Cesarean Section. W. Cantrell, Greenville.

St. Louis Medical Review.

May.

189 Medical Ethics—Duties of Physicians. H. C. Fairbrother, St. Louis.
190 Some Devices for Increasing the Usefulness of Blood Counting Apparatus. W. P. Elmer, St. Louis.
191 Ulerythema Sycosiforme. C. H. Ball, St. Louis.
192 Surgery of the Ureter. B. M. Ricketts.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

June 13.

1 Melitensis Septicemia. J. W. H. Eyre.
2 Dangers and Treatment of Myoma of the Uterus. C. Martin.
3 *Bacteriology of Cerebrospinal Meningitis. W. J. Wilson.
4 *Intractable Hay Fever and Paroxysmal Coryza by Resection of Nasal Nerve. E. S. Yonge.
5 The Gastroscope. A. E. Morison.
6 Case in Which Occlusion of Abdominal Aorta Took Place. C. H. Cattle.
7 *Treatment of Gangrene in Strangulated Hernia. E. M. Corner.
8 Case of Dissecting Aneurism of Pulmonary Artery; Patent Ductus Arteriosus; Rupture into Pericardium. L. Durno and W. L. Brown.

3. Bacteriology of Cerebrospinal Meningitis.—Wilson describes a Gram negative diplococcus found in the feces of cerebrospinal fever patients. It superficially resembles the meningococcus, though quite distinct from it, and is shown by the following facts to have nothing to do with meningitis: 1. Typical meningococci were cultivated from the cerebrospinal fluid; and 2, the blood serum of these patients had a high opsonic index as regards the true meningococcus, but a normal index as regards this organism. Wilson describes the morphology, the cultural characteristics and the pathogenicity. He also describes a case of cerebrospinal meningitis due to infection with an organism of the *Micrococcus catarrhalis* class, which he describes in like manner, concluding with a résumé of the history of the *M. catarrhalis.*

4. Resection of Nasal Nerve for Hay Fever.—In a preliminary communication Yonge described a method of dealing with desperate cases of hay fever, based on the theory that the stimulant which induces the reflex manifestations observed in hay fever and in paroxysmal coryza is conveyed to the centers of the nasal nerve, which is thus the afferent path of the reflex. He discusses the distribution and functions of this nerve and describes the effect of cauterizing the nasal mucous membrane, and the effect of bilateral resection of the nasal nerve. Division of that nerve on one side abolished the intermittent nasal obstruction, with profuse hypersection on the side on which the nerve had been divided, whereas the disturbances continue to recur periodically in the opposite nasal cavity, as before operation. This led him in an intractable case to perform the following operation: Resection of the nasal nerve on the right side was first performed, chloroform anesthesia being employed. The nerve was reached by an incision at the inner edge of the orbit, commencing just above the inner canthus and extending upward and slightly outward for about two-thirds of an inch. The cellular tissue having been cleared from the inner upper wall of the orbit by means of a blunt dissector and the nerve located at the anterior ethmoidal foramen, the latter was separated from the artery and divided close to the foramen, about a quarter of an inch of the nerve being removed. Horsehair sutures were inserted and the wound was dressed with gauze and collodion. The stitches were removed on the fourth day. Resection of the nerve on the left side was carried out four weeks later. Two months after operation the paroxysmal coryza, sneezing and asthma had entirely disappeared, there was increased freedom of nasal respiration, and consequently the patient slept better. He had gained seven pounds in weight and the general health was manifestly improved.

7. **Gangrenous Strangulated Hernia.**—Corner reports the results of the treatment of necrosis of the bowel in strangulated hernia at St. Thomas's Hospital, between 1901 and 1905, numbering 30 cases. The methods used have been resection and immediate anastomosis, resection and enterostomy, and invagination. Comparing the first two methods, he considers that the line of treatment tends toward resection and anastomosis, notwithstanding the unanimity of abdominal surgeons as to the general danger of anastomosis in a bowel distended with septic fluid; but he points out that there is a great difference between cases in which the septic distention has taken place rapidly on an acute condition, as in strangulated hernia, and those in which it follows slowly in a chronic condition, such as carcinoma of the sigmoid. With regard to invagination, the two cases in which it was used proved very successful. It is applicable to small areas of necrotic bowel, and will be mainly useful for secluding "doubtful" bowel, at places where the bowel has been nipped, and for the patchy gangrene sometimes found at the apex of the strangulated loop.

British Medical Journal, London.

June 13.

9 Thoracic Aneurism. D. Drummond.
10 Myalgia. J. R. Keith.
11 *Dangers and Evil Effects of Infant Binders. A. Waring
12 The Inky Polygraph. J. Mackenzie.
13 Plea for Habitual Performance of Autopsies in General Practice. J. T. Fox.
14 Traumatic Rupture of the Large Intestine; Operation; Recovery. W. H. Battle
15 Treatment of Fractures H. T. Gray.

11. **Infant Binders.**—Waring calls attention to the dangers of enveloping the infant's body "in countless bands, swathes and swaddling clothes" The dangers of constriction and increased intra-abdominal and intrathoracic pressure depend on: 1. The degree of constricting or binding force; 2, the extent of surface covered; 3, the time worn; 4, the health and power of resistance of the infant. He enumerates the following effects and conditions that may result from binder comparison: 1, Discomfort; 2, vomiting; 3, inguinal and umbilical hernia; 4, prolapsus ani; 5, thoracic deformities; 6, thoracic constriction in pulmonary diseases; 7, interference with cerebral circulation; 8, a contributory factor to the danger of death by overlying.

Medical Press and Circular, London.

June 10.

16 *Landmarks in the Study of Tuberculosis. W. St. C. Symmers.
17 *New Generalization in Serum Therapy. D. M. Paton
18 The Milk Problem, or the Production and Distribution of Pure, Clean Milk. J. C. Thresh.
19 *Empyema in Children. S. J. Ross.
20 Surgical Treatment of Chronic Dysentery. H. Steiner.

16. **Tuberculosis.**—Symmers gives a historical account of the progress of our knowledge of tuberculosis. Incidentally, he says that in conjunction with Sir William Whitla he has corroborated the findings of Vansteenberghe and Grysez, that ingested matter can pass from the intestines to the lungs. On introducing ground-up India ink through an esophageal tube, the carbon particles have been found in the lungs of an adult guinea-pig within four hours, the intestines and mesenteric glands offering little or no hindrance. In the case of baby guinea-pigs, however, the mesenteric glands act as a sieve and retain the offending particles.

17. Published in the *Intercolonial Medical Journal of Australasia*, February, 1908, and abstracted in The Journal, May 2, 1908.

19. **Empyema in Children.**—Ross sums up his remarks as follows: 1. If a child is brought on account of wasting, never omit to examine the chest. 2. If the child is too feeble to stand the operation of resection of ribs, remember that aspiration sometimes results in cure. 3. If we have a child under our care suffering from pneumonia whose convalescence is protracted, we must never forget to keep a watchful eye for the development of fluid. 4. If after drainage the patient's progress is unsatisfactory, we must remember that loculated collections of pus are not infrequent. 5. It is always necessary to examine the pus for the causal organism. If the pneumococcus is found the outlook is favorable. If the streptococcus, the injection of antistreptococcic serum will hasten convalescence. If the tubercle bacillus is discovered the outlook is very unfavorable indeed.

Clinical Journal, London.

June 10.

21 Pathology and Treatment of Headache. A. E. Russell.

Glasgow Medical Journal.

June.

22 *Means of Observing and Recording the Efficiency of Urinary Discharge by the Urethra. A. N. McGregor.
23 Esophagoscopy. R. Fullerton.

22. **The Urinary Flow.**—McGregor details a method invented by one of his patients of gauging the rate of progress and the patency of his urethra during bougie treatment. The first micturition of the morning is most suitable as giving more constant results. The urine is passed into a four-ounce measure graduated in drams, a second being ready for instant substitution if necessary. The urine is allowed to flow into the glass, or glasses, for five seconds from the commencement of the act and then immediately stopped. The amount in drams is read off and noted on cross-section paper, having the numbers 0 to 32 from below upward on the left margin, and the dates along the base line. The dates of dilatation are marked, and the effect on the amount of urine passed in five seconds is thus charted. Experiments with normal patients showed a fairly constant figure, the average quantity passed being taken at 8 ounces. From 32 to 42 drams was found to be the normal amount passed in five seconds. In the case of strictured patients the charts appended to the article show that after dilatation there is a rapid rise in the amount passed in five seconds at the morning micturition; but they show also that overdilatation gives less satisfactory results than more moderate distention, for the gain more quickly subsides than in the latter case.

Dublin Journal of Medical Science.

June.

24 Unusual Pulmonary Cases. T. G. Moorhead.
25 Alcohol and Mental Diseases. W. R. Dawson.
26 *Duodenal Ulcer; Diagnosis and Treatment. A. B. Mitchell.

26. **Duodenal Ulcer.**—Mitchell answers in the affirmative the questions: 1, whether it is necessary and important to be able to diagnosticate duodenal ulcer with accuracy, and, 2, whether such diagnosis can be made with reasonable certainty. The reasons for the first question are the greater seriousness of duodenal than gastric ulcer, the greater liability to profuse and dangerous hemorrhage, the lesser likelihood of permanent cure by medical means in duodenal than in gastric ulcer, and the greater importance of surgical intervention. Duodenal ulcer can be recognized clinically, he says, with as great a degree of accuracy as gastric ulcer, gallstones or even appendicitis. The characteristic symptoms are: 1. Pain of a special type. 2. A feeling of fulness and discomfort after food, with eructations of gas, and generally some hyperacidity. 3. Local tendencies over an area just above and to the right of the umbilicus. 4. Hematemesis and melena. 5. Some degree of dilatation of the stomach exists in most cases from an early stage of the affection. He discusses these signs in detail. As to operation, his own practice is to do a jejunostomy (posterior operation when possible), and then close or partially close the pylorus by a few Lembert sutures. He reports seventeen cases of gastrojejunostomy for duodenal ulcer and nine cases of perforating duodenal ulcer, all terminating in recovery.

Annales de Dermatologie et de Syphiligraphie, Paris.

May, IX, No. 5, pp. 257-349.

27 Congenital Circumscribed Alopecia. W. Dubreuilh and G. Petges.
28 *Treatment of Syphilids with Local Injections of Mercury. H. Hamel.

28. **Treatment of Syphilids by Local Injections of Mercury.**—Hamel advises local medication in ulcerative and destructive syphilids and also when the lesions are localized at an inconvenient point. He advises it also when general treatment is impossible or has proved ineffectual or if there are kidney, intestinal or gum affections. Sixteen cases are described with the technic followed. The best results were obtained with an isotonic solution of mercury cyanid, 1 to 2,000, with a little anesthetic. A very fine needle is inserted, slanting, at one or more points, and enough fluid is injected to cause considerable infiltration. He made from five to ten injections, as a rule, with or without general treatment.

Annales de Médecine et Chirurgie Infantiles, Paris.

May 15, XII, No. 10, pp. 325-360

29 Study of Respiration in Children. (Pneumographie.) E. Gaujoux.
30 Case of Gangrenous Purpura in Eight Months' Infant. L. Babonneix and L. Tixier.

June 1, No. 11, pp. 361-396.

31 Two Cases of Suppurative Cerebrospinal Meningitis in Infants Simulating Tetany. L. Babonneix and L. Tixier.
32 Bacteriologic Study of Contagious Affection of the Lips (Perlèche.) M. B. Auche.

Archives Générales de Chirurgie, Paris.

May 25, II, No. 5, pp. 437 539.

33 *Traumatic Diffusion of Urine in Kidney Region. (Pseudo hydronéphrose traumatique.) Nové-Josserand and Ballivet
34 *Postoperative Parotitis. (Considérations cliniques et pathogéniques.) P. Soubeyran and A. Rives.
35 Non-existence of "Adenoma of Testicle" (L'adénome testiculaire existe-t-il et peut-il exister?) A. Branca and A. Bassetta.

33. **Traumatic Diffusion of Urine in Kidney Region.**—Two cases are described of traumatic pseudohydronephrosis, both in children. In 18 cases on record treated by puncture there were 4 deaths in the pre-aseptic era; in 4 cases further operation was required, and the other patients were all cured; the puncture had to be repeated from 2 to 8 times in all but one case. If the perirenal effusion is not very large and the functional disturbances not alarming, expectant treatment is advisable or puncture is repeated as indicated. If the effusion constantly recurs it is better to open the pocket and marsupialize. If the pocket is infected, a plastic operation should not be attempted and nephrectomy must be done. In one of the cases described a large incision with a counteropening in the lumbar region proved insufficient, and the child succumbed to sepsis.

34. **Postoperative Parotitis.**—Soubeyran and Rives relate a case personally observed and 4 others from Mauclaire's experience and summarize 85 from the literature. They ascribe the parotitis to diminished secretion of saliva and enhanced virulence of the germs in the mouth. In some of the cases the parotitis had been preceded by stomatitis.

Bulletin de l'Académie de Médecine, Paris.

June 2, LXXII, No. 22, pp. 581-613.

36 *Preventive Injections of Antitoxic Serum in Prophylaxis of Tetanus. L. Vaillard.
37 *Arteriosclerosis. Its Pathogenesis and Treatment. Lancereaux.
38 Jean-Jacques Rousseau et Desessartz. A. d'Espine.

36. **Preventive Injections of Serum for Tetanus.**—Vaillard discusses 31 cases on record in which tetanus developed after the prophylactic injection. In 10 cases the tetanus developed between the seventeenth and eighteenth and in 8 between the tenth and sixteenth days after the injection. He thinks that the serum ceases to be effectual after a week or at most two weeks, and consequently the above cases are outside the range of the immunity conferred by the serum. A second injection might have prevented the tetanus. In the 13 cases in which the tetanus developed between the second and tenth days, in 6 there had been inadequate dosage; in others the wound was merely dusted with dry serum. There thus remain only 5 cases in which the prophylactic injection proved actually ineffectual—an insignificant proportion in view of the thousands of preventive injections made since 1896 in all countries. The statistics in veterinary practice show good results, he says. In a recent series of 13,124 injections of horses none contracted tetanus. He suggests that possibly one reason for the better results in veterinary practice is that the veterinarian makes the injection himself. Another reason is that in case of disabling accident the horse is killed and the outcome of the serum is known only in the mild cases. The conditions consequently are not the same as in case of serious injury to man. Antitetanus serum is not bactericidal. Spores protected against the phagocytes can proliferate even when the blood is strongly antitoxic. This proves the importance of destroying the spores in the wound and suppressing all conditions favorable to their growth. The serum protects against the action of the toxin, but only for about a week. The first dose should be effectual; the ordinary dose should be doubled or tripled in case of severe traumatism. Phagocytosis is less active in muscle tissue, and the abundance of nerve elements favors the absorption and the passage of the toxin by routes where the antitoxin does not seem to be able to penetrate. When tetanus developed notwithstanding the preventive injection, its course was undoubtedly milder. He advises repeating the injection as needed, his practice being a primary injection of from 20 to 50 c.c.; with 10 or 15 c.c. every week afterward; in one case the tetanus developed nearly thirteen weeks after a single injection. Local application to the wound is effectual only when the serum is not drained away by the dressings.

37. **Arteriosclerosis.**—Lancereaux protests against the assumption that arteriosclerosis is an affection of old age. He has observed it frequently between 30 and 40, and has noticed that its course is more rapid in the comparatively young. The two main factors are gout and lead poisoning. Tobacco, liquor and alimentary toxemia have long been overestimated, he thinks, as factors in arteriosclerosis. They act only in case of a tendency to gout or lead poisoning. The practical result of his views is that members of families which display a tendency to gout should be treated early, seeking to modify that condition of the nervous system which predisposes to arteriosclerosis. He thinks that he has done good work in this line, although its very nature prevents conclusive testimony. He prescribes potassium iodid, from 1 to 3 gm. (15 to 45 grains) in twenty-four hours, continuing this for months and years with intervals of a week each month. He orders at the same time a drastic purgative to promote the elimination of the iodid. Hypertrophy of the heart with high arterial tension and nocturnal polyuria with lesser density of the urine are signs of diffuse arteriosclerosis. Brine baths, alcohol rubs and tepid douches, by soothing the nervous system, favor the elimination of waste. The practitioner should seek to ward off the impending uremia, asystole or cerebral insufficiency, and treat them with the greatest energy if already developed.

Presse Médicale, Paris.

June 3, XVI, No. 45, pp. 353-360.

39 Histology of the Liver Cells. (Cellules hépatiques claires, travées hépatiques normales.) A. Gilbert and J. Jomier.
40 *Symptom of Perforation of Appendix. P. Delbet.
41 Improved Instrument for Tonsillectomy. (Nouveau Morceleur à érigne.) R. Leroux.

June 6, No. 46, pp. 361-368.

42 Interpretation of Urine Findings. (Analyses urinaires.) H. Labbé.
43 *Ethyl Chlorid for General Anesthesia. (Chlorure d'éthyle comme anesthésique général dans la pratique chirurgicale journalière.) F. Lemaitre.

June 10, No. 47, pp. 369-376.

44 *Multiple and Recurring Patches of Gangrene on Arms and Foot. Dieulafoy.

40. **Symptom of Perforation of Appendix.**—Delbet bases the diagnosis of perforation on a single symptom, which he has found constantly in all his cases. After the first onset of symptoms the pain subsides under repose and ice, but suddenly a paroxysm of pain returns. Although it soon subsides again, this abrupt return of the pain, notwithstanding that no imprudence has been committed, is a sign of perforation, and he operates at once.

43. **Ethyl Chlorid for General Anesthesia.**—Lemaitre has been using for two years ethyl chlorid in all operations not

requiring more than two minutes, and as the first stage of chloroform anesthesia. He gives an illustrated description of the simple apparatus, mask and collapsible bag which is used for the purpose. He is convinced that this technic is the most rapid and, with the chloroform, is perhaps less dangerous than any other method for prolonged anesthesia.

44. **Recurring Patches of Gangrene.**—Dieulafoy reports a case in which a man of 30 consulted more than fifteen physicians and surgeons for recurring eschars on the left arm. The affection was diagnosed as neuritis, myelitis, etc, and all kinds of treatment were tried, including stretching the nerve Finally, he consented to have the arm amputated, but after a few months the patches appeared on the other arm and on the foot. After two and half years of this affection Dieulafoy decided that the man was malingering, and obtained a confession that he had made the sores himself with caustic potash. With the confession the obsession vanished He had no pecuniary motives for this conduct, and the case raises interesting questions in regard to legal responsibility.

Revue de Médecine, Paris.

May, XXVIII, No 5, pp 401-504

45 Experimental Cholecystitis J Thiroloix and R Debré
46 *Pernicious Anemia. M Labbé and M Salomon Commenced in No 4
47 Initial Lesions in Chronic Hepatitis D Gérandel
48 *Two Cases of Severe Jaundice Stoicescu and Bacaloglu
49 Determination in Breast Milk of Substances Indicating Intestinal Putrefaction (Recherches dans le lait des nourrices) H Labbé and R Pepin
50 Familial Gallstone Affections (Lithiase biliaire familiale) P Londe

46 **Pernicious Anemia.**—Labbé and Salomon declare that pernicious anemia is not a morbid entity but a clinical syndrome resulting from extensive destruction of blood with insufficient repair It is merely, they assert, the last stage of a symptomatic anemia These conclusions are based on the international literature, and on clinical and experimental research Six pages of bibliography are appended

48 **Severe Jaundice from Meat Poisoning.**—In the two cases reported the jaundice came on in the midst of health in young men, except that one in the past had been treated for dyspepsia and mild nephritis and his father for delirium tremens. After eating the spoiled meat, a few days of dyspeptic disturbances and pains were followed by severe illness with delirium, intense jaundice, filiform pulse and terminal coma in the first case. During the coma in the second case there was incontinence of urine and feces, but the kidneys worked so effectually, passing nearly 4 000 grams of urine a day, that the patient gradually recuperated after four days of coma and subcutaneous hemorrhages The soundness of the kidneys, re enforced by saline infusion, was evidently his salvation

Semaine Médicale, Paris.

June 3, XXVIII, No 23 pp 265-276

51 *Characteristics of Venous Pulse in Hypertrophy of Left Heart Associated with "Kidney Heart and Aortic Insufficiency. (Caractères du pouls veineux dans les hypertrophies du cœur gauche liées au cœur rénal et à l'insuffisance aortique) L Bard

June 10 No 24, pp 277-288

52 Intrapelvic Saccular Dilatation of Uterus at Term B de Bovis

51. **Characteristics of Venous Pulse with Hypertrophy of the Left Heart.**—Bard gives a number of tracings in cases of hypertrophy of the left heart with kidney disease and aortic insufficiency. He shows that the special phases of the venous pulse reveal several important features of this condition. Accentuation of the presystolic wave, after acute nephritis not leaving any traces of albuminuria, is one of the earliest signs of later chronic nephritis As the characteristics of the venous pulse become modified in the various phases of the kidney affection, they throw light not only on the diagnosis, but also on the prognosis of the cardiac lesions The lengthening and the—at least apparent—anticipation of the systole of the auricles in nephritis and in aortic insufficiency, reveal the existence of changes in the habitual synchronous action of the auricles and ventricles from the disturbance in the usual course of the blood through the heart.

Berliner klinische Wochenschrift.

June 8, XLV, No 23, pp. 1081-1120

53 Intramuscular Myeloma and Hematoma as Complication of Myeloid Leukemia C Frugoni
54 Laryngeal Disturbances in Beriberi. (Kehlkopfstörungen bei Beriberi) H E Kanasugi.
55 Microsporia Epidemic. F Glaser
56 Clinical Importance of Turgosphygmographic Pulse Tracings H Strauss and F Fleischer.
57 Intestinal Dyspepsia. (Darmdyspepsie) M. Einhorn (New York)
58 Experiences at Stettin with Diphtheria Gabriel.
59 Chronic Diphtheroid Throat Affection (Chronischer Rachendiphtheroid) Gabriel
60 Fracture of Distal Phalanx from Tearing Off of Extension Tendon F. Davidsohn
61 *Tuberculin Salve in Differentiation and Treatment of Lupus E Senger
62 Retrogression to Embryonal Conditions in Blood (Rückschlag in die embryonale Blutbildung) C. S. Engel.

61. **Tuberculin Salve in Lupus.**—Senger applies a 3 per cent. tuberculin-lanolin salve in local treatment of lupus. There is no general reaction, but the local reaction is like an explosion, he says The inflammation and suppuration that follow the application of the salve have a curative action, or at least prepare the soil effectually for phototherapy. He has been studying this technic for two years, and extols the manner *in which it cures the lupus or influences toward a cure,* especially when the inunction of tuberculin salve is supplemented by Roentgen exposures. He regards the reaction as specific, comparing it to the sudden chemical reaction between gunpowder and fire, or that between nitric and carbolic acids. The reaction stops abruptly at the edge of the lupous patch. The reaction also serves to differentiate a tuberculous or lupous lesion from ulceration of other origin.

Deutsches Archiv für klinische Medizin.

March 4, XCII, Nos. 5-6, pp 383-618.

63 *Influence of Occupation on Size of Heart. (Einfluss der Berufsarbeit auf die Herzgrösse) Schieffer.
64 Peristaltic Movements of the Stomach and Capacity of Extension of the Fundus (Studien über Magenbewegung) K Sick and F Tedesko
65 *Dyspepsia from Intestinal Fermentation (Intestinale Garungsdyspepsie) H. Meyer Id and Test Diet for Study of Functioning of Intestines (Probediaten zur Untersuchung der Darmfunktionen) A. Schmidt.
66 Experimental Production of Atrophy of Bone Marrow with Typhoid Toxin (Knochenmarksatrophie) H. Hirschfeld
67 *Intravenous Strophanthin Treatment. C. Hoepffner.
68 *Morphologic Study of the Blood at the Bedside (Blutuntersuchung am Krankenbette) O. J. Wynhausen.
69 *Pressure in Pleuritic Effusions. (Druck bei Pleuraergüssen) W. Weitz
70 *Temporary Improvement in Leukemia Under Tuberculin Id
71 Physiologic Importance of Leucocytic Changes in the Blood in Infectious Disease (Leukozytischen Blutveränderungen bei Infektionskrankheiten) K Ziegler and H. Schlecht
72 Ring Bodies in the Blood in Anemia. (Ringkörper im Blute Anämischer) Gabriel

63. **Influence of Occupation on Size of Heart.**—Schieffer computed a normal standard for the proportions of the body and heart from an average of 56 healthy young recruits. Comparing this standard with 33 men accustomed to hard manual labor, 23 with light work, and 32 others who use the bicycle constantly, he finds that the heart enlarges in size as demands are made on it—a physiologic reaction to the stress Bicycling has the same effect as hard manual labor in this respect. ,The same conclusions apply also to the military service.

65. **Dyspepsia from Abnormal Fermentation in the Intestines.**—Meyer describes his experiences with 16 patients. The trouble is defective secretion in the glands of the small intestines, presumably of functional nature It may occur independently, especially in neurasthenic and anemic individuals, or it may be the result of a primary stomach affection. Abstention from carbohydrates for a time is generally sufficient treatment, with all vegetables passed through a sieve. Possibly lavage of the stomach, hydrochloric acid and massage may be required. (See abstract 74.)

67. **Intravenous Injection of Strophanthin.**—Hoepffner has made 78 intravenous injections in 34 patients, including 5 with pneumonia and 4 with tuberculosis. In these latter cases the results were only transient. The drug displayed the greatest efficacy in 8 cases of chronic nephritis with cardiac insufficiency In one of these cases 11 injections of 1 mg. were given in 41 days with complete subsidence of the extensive dropsy which had previously resisted all treatment.

The drug also proved beneficial in 2 cases of heart failure in meningitis and typhoid, also in 12 cases of chronic heart disease. He had 2 fatalities, and the injection was evidently responsible for one of them, he says. The patient had a severe chill an hour after the injection; it had been given for a severe uncompensated valvular defect. The chill was probably the result of bacterial contamination of the drug. The patient succumbed during the chill.

68. **Blood Findings at the Bedside.**—Wynhausen describes the findings in half a dozen cases of atypical leukemia and leukanemia in children.

69. **Pressure in Pleural Effusions.**—Weitz regards determination of the pressure as very important. It shows when to arrest the puncture, and is also useful for differentiation.

70. **Tuberculin in Leukemia.**—Weitz has found that tuberculin gives a transient improvement which may be found useful as a preliminary to other measures in treating leukemia.

Deutsche medizinische Wochenschrift, Berlin.

June 4, XXXIV, No. 23, pp. 993-1040

73 *Painless Delivery Under Scopolamin-Morphin. (Schmerzlose Entbindungen im Dämmerschlaf.) B. Krönig.
74 *Tests of Intestine Functioning and Their Results. (Die neueren klinischen Untersuchungsmethoden der Darmfunktionen und ihre Ergebnisse.) A. Schmidt.
75 Stenosis and Insufficiency of the Pylorus. (Fall von Verengerung und Schlussunfähigkeit des Pylorus.) M. Einhorn.
76 Meningococcus Serum. Krumbein and P. Schatiloff.
77 *Examination with the Sphygmobolometer. (Sphygmobolometrische Untersuchungen an Gesunden und Kranken.) H. Schulthess. Commenced in No. 22.
78 Unilateral Hyperidrosis. J. Friedlander.
79 Operation for Deep Abscess on the Tongue. (Operation von tiefliegenden Zungenabszessen.) A. Brunk.
80 Treatment of Fractures of Fingers. (Fingerfrakturen.) P. Ewald.

73. **Delivery Under Scopolamin-Morphin.**—Krönig believes that the modern woman has nervous exhaustion and loss of will power in the course of childbirth to an extent hitherto unrecognized, and that this tendency is constantly increasing, especially among the so-called better classes. Obstetricians who practice in the "West End" of Berlin state that they have to use forceps in nearly 40 per cent. of the childbirths. Everyone there agrees that the increase in the number of cases of puerperal fever is due to the increasing proportion of forceps deliveries. More and more is it demanded of obstetricians that they relieve or put an end to the pains of childbirth. He thinks that the nervous system of the modern woman is scarcely able to stand the stress of labor which is really not physiologic with her, as the nervous system is below par. That neurasthenia does not follow childbirth more frequently than it does is a matter for surprise. He is convinced that his technic of scopolamin-morphin "twilight sleep" answers its purpose of rendering childbirth entirely or nearly painless. He has applied it in 1,500 cases. In his last 500 one patient succumbed to hemorrhage from rupture of the uterus, the family refusing to allow an operation; one child died during delivery and 3 others in the first three days. He ascribes this low mortality to the benumbing of the respiration center by the trace of scopolamin which passes to the child and prevents aspiration of amniotic fluid, etc. This theoretic explanation is assailable, but the fact remains that with an experience of 1,500 cases the mortality of the children during and immediately after delivery is much less than it was before the scopolamin technic was introduced. Later reports from nearly 300 of the children show that the development in all respects has been normal. Everything depends on correct dosage and management, and years of experience have been required to attain the results reported. The supervision of the patient requires the most careful intensive attention. The woman must be protected against noises, bright light, etc. Great practice and skill are required for this technic. He has not found that it prolongs the birth process beyond its physiologic limits, even if it should lengthen it by half an hour he thinks that this might well be disregarded. The details of the technic used at the clinic were summarized in these columns March 7 and 16, 1907, pages 912 and 983, as published by Gauss.

74. **Tests of Intestinal Functioning.**—Schmidt uses a test diet for two or three days consisting of from one to three pints of milk, raw or cooked in the dishes, porridge, strained, one soft boiled egg, from 100 to 250 gm. soft mashed potato and 100 gm. white bread or its equivalent, with tea or cocoa in the morning, and, at midday, a quarter of a pound of finely chopped raw beef, browned a little on the outside but raw inside. The third day the stool is examined; scraps of connective tissue reveal disturbance in the gastric digestion. Of all the digestive fluids, only the gastric juice is able to digest raw connective tissue. The discovery of undigested connective tissue thus reveals some derangement in the functioning of the stomach, which may be responsible for a supposed intestinal trouble. He gives an illustrated description of his test of pancreas functioning by means of small cubes of fresh beef tied in a bag made of a circle of gauze. It is swallowed with the food. When the little bag is found in the stool the nuclei in the meat are digested out in normal conditions and nothing is left in the gauze but the tissue fibers. When the nuclei are retained unimpaired this is a sign of secretory insufficiency in the pancreas on a functional basis. The Cammidge test is rather a sign of destruction of pancreas tissue, especially fat tissue necrosis. Discovery of sago-like grains, representing the relics of potatoes, indicates disturbance in the digestion in the small intestine. This may occur alone, and suggest insufficiency of the intestinal secretion which breaks up starch, for neither the lack of saliva nor of pancreatic secretion leads to such losses of starch. One of the common consequences is abnormal fermentation in the intestines, revealed by formation of gas, acid reaction, lighter color and odor of butyric acid when the stool is kept in the incubator for 24 hours. Prolonged fermentation dyspepsia entails irritation of the intestinal mucosa, with secondary catarrh. *Treatment* consists in abstention from carbohydrates and treatment of any accompanying stomach derangement. His experience has been that the majority of the so-called nervous diarrheas are latent catarrhs. The nutrient medium determines the flora, not the reverse. In regard to constipation his research has shown that not only the water but also the dry substance of the total stools are much below the normal amounts. The constipation is due to the fact that the digestion is too perfect. The food is digested and assimilated too completely; there is not enough waste left to form a proper culture medium for the normal bacteria, and consequently there is no stimulus for natural peristalsis. Treatment should aim to supply substances to make the feces more bulky and moist, and this he accomplishes by having the patients take agar-agar regularly. The intestinal motor functions are stimulated by it without the least irritating action. The effect has been excellent, and confirms his theory in regard to the true cause of constipation. Increasing knowledge of the functional disturbances of the stomach has shown, he declares, that motor disturbances, aside from stenosis, are as a rule secondary, and it is more than likely that the same is true also of the intestines. The aim should be to separate the complicated chemistry of digestion in the small intestine and its disturbances into its single components. Functional tests with his "test diet" show that this is possible.

77. **Clinical Importance of the Sphygmobolometer.**—Schulthess relates his experiences and the results of examination of more than 100 recruits, 18 healthy nurses and 19 patients with heart affections. He thinks that this method of sphygmobolometry fills a long-felt want, as it allows the work of the left ventricle to be recorded in figures. It shows the relations and the differences between the pathologic and the normal systole and the varying behavior of the same heart under different conditions. The reaction of the heart thus measured in figures allows the effect of heart tonics to be judged with certain and objective findings, apart from the patient's statements or the pulse findings, and without waiting for the disappearance of signs of pronounced insufficiency.

Medizinische Klinik, Berlin.

June 7, IV, No 28, pp 855-894.

81 Participation of Ophthalmologists in Operative Treatment of Orbital Accessory Cavities (Operative Behandlung der orbitalen Nebenhohlen) T Axenfeld
82 *Non melanotic Sarcoma of Rectum A Exner.
83 Course of Influenzal Encephalitis Simulating Tetanus H Berger
84 *Preparation of Patients for Laparotomies M Schwab
85 Balneotherapy of Heart and Vascular Affections Result of Metabolic Disturbances (Balneotherapie bei durch Stoffwechselstorungen bedingten Herz- und Gefasserkrankungen) M. Fisch
86 Injections of Air (Luftinjektionen) W. Alexander
87 Conjunctival Reaction and Allergy Test. (Ophthalmoreaktion und Allergieprobe) Hammerschmidt
88 Arteriosclerosis and Sea Climate Ide
89 Determination of Presence of Carbon Monoxid in Blood. (Nachweis von Kohlenoxyd im Blute) O Schumm
90 *Failure of Calomel Salve to Protect Against Syphilis G Vorberg

82 **Sarcoma of Rectum.**—Exner reviews what has been written on the subject of non-melanotic sarcoma of the rectum and reports two cases This material shows that apparently harmless hemorrhoidal nodules may be the starting point for a sarcoma. Overlooking the malignant nature of the hemorrhoidal growth may have the most serious consequences, as in one of the cases reported In the other case the unusual toughness of one of the nodules led to its being examined under the microscope, with discovery of a small-celled, round-celled sarcoma. The patient is in apparently perfect health to date, more than a year since its removal. She had applied for relief from recurring hemorrhages from inflamed external hemorrhoids. The rectum was amputated; no metastases were found in it.

84. **Preparation for Laparotomy.**—Schwab regards general anesthesia as defectively conducted when the patient makes any retching movements Even if it does not come to vomiting, the retching not only brings danger of aspiration pneumonia, but has a very weakening effect besides. Consequently he believes in using plenty of the anesthetic to prevent any tendency to vomit Another prophylactic measure which does not receive the attention it deserves, he says, is thorough disinfection of the mouth Disinfection of the field of operation with benzin and iodin is the simplest, quickest and least depressing of all technics to date, he thinks He gives a sedative for the last few days before the operation, and insists on all present refraining from speaking during the operation or else wearing veils, even when they have nothing to do with the operation.

90. **Failure of Calomel Salve to Protect Against Syphilis.**—Vorberg has collected from various society proceedings a number of cases of the prophylactic use of Metchnikoff's calomel salve with disastrous results, although applied strictly according to directions.

Münchener medizinische Wochenschrift.

June 2, LV, No 22, pp 1161-1216

91 *Experimental Study of Extrauterine Blood Production (Extrauterine Blutbildung) E Meyer
92 Histologic Changes in Blood Producing Organs in Pernicious Anemia. P. Schatiloff
93 Spirochetes in Mouse Cancers (Spirochaten bei den Krebsgeschwulsten der Mause) H Deetjen
94 *Congenital Syphilis and Tuberculosis of Suprarenals Esser and Schultze.
95 Determination of "Bacillus Longus" in Feces and Its Significance (Nachweis der langen Bazillen in den Fazes und dessen klinische Bedeutung) G Sandberger
96 *Diagnosis of Tuberculosis of Lungs K E Ranke
97 Moderate or Radical Conservatism in Treatment of Contracted Pelvis? (Behandlung des engen Beckens?) O v Herff
98 *Cesarean Section and Spinal Anesthesia (Kaiserschnitt und Lumbalanästhesie) O Polano
99 Systematic Inhalation of Hydrogen Dioxid in Prophylaxis of Measles (Vorschlage zu einer medikamentosen Prophylaxe der Masern) F Langer
100 Bolus in Treatment of Diphtheria Stumpf

91. **Experimental Research on Formation of Blood.**—Meyer's experiments demonstrate that degeneration of the spleen follicles can not be the cause of leukemia Consequently splenectomy is irrational They further show that the proliferation of marrow tissue in pernicious anemia is a reparatory process and not the cause of the anemia. Roentgen treatment of this proliferation of marrow tissue is therefore useless

94 **Congenital Syphilis of the Suprarenals.**—Esser reports three cases of inherited syphilis in infants in which the sole or predominant localization of the syphilis was in the suprarenals. Vomiting, colic and diarrhea, independent of the food, were the main symptoms. In Elasser's compilation of 549 cases of tuberculosis of the suprarenals, in 17 per cent. there was no tuberculous affection of any other organ, but in 43 per cent. there was chronic pulmonary tuberculosis. In both syphilis and tuberculosis the suprarenals can thus be the primary seat of the disease, possibly from intrauterine transmission of the infection. The suprarenals of syphilitic fetuses should be examined for spirochetes.

96. **Diagnosis of Incipient Tuberculosis of the Lungs.**—Ranke has been able to make a physical examination of the lungs of a number of persons succumbing to various nontuberculous diseases, the findings being controlled by autopsy not long after. He found ten cases in which the lungs showed traces of a small apical lesion Those about the size of a bean gave no clinical signs of their existence, but one lesion, about the size of a hazelnut, was recognized during life. The breathing sound was harshly vesicular, expiration prolonged, and the murmur changed more to the bronchial type. The infiltration in this case was manifested both by percussion and auscultation. His experience further confirms the diagnostic importance of the obscuring, the "veiling" of the inner margin. It is generally combined with dulness over the apex. His cases showed that distinct restriction of the field of resonance over the apex is the result of an effusion or of pleuritic thickening. Percussion of the lower margin of the lung and its excursion is an important link in the chain of symptoms, especially when positive. The diaphragm may be restricted in its movements, even in incipient tuberculosis, but this is not always necessary. In twenty persons examined there was no change in the breathing sound toward the bronchial type, and in none of these cases was any infiltration in the lungs discovered later. This confirms the importance of this physical sign for the diagnosis. In case of secretion in the bronchi the breathing sounds are harsh and jerking, with prolonged expiration This form of expiration is exclusively a symptom of secretion, and must be distinguished from the prolonged expiration with the tendency to bronchial breathing and its transitions into the vesicular—this being a symptom of infiltration, although both types may be combined. He found what he calls "unclear" breathing sounds (*unreines Atmen*) in three cases with pleuritic thickening, but no infiltration or secretion. This anomaly is noted especially in elderly people, but has no differentiating importance. Increased intensity in the inspiratory sound is ascribed in the text-books to catarrhal secretion. His experience has shown, however, that it occurs frequently when there is a tuberculous focus, as a sign of vicarious emphysema. Infiltrated parts are surrounded by a zone of more or less distended air vesicles, and this is the rule with apical cicatrices. He thinks it probable that this local emphysema is manifested by increased intensity in the breathing sounds He adds that the relative proportions between the signs must be borne in mind, citing as an example of the necessity for this rule a case of heart disease in which there was pronounced dulness over one apex, impairment of resonance, increased vocal resonance, and prolonged expiration but no vesicular inspiration. The lack of change in the inspiratory sound was all that prevented the erroneous diagnosis of a large cicatrix in the right apex. Autopsy showed extensive pleuritic thickening and reduced circulation in the apex, owing to an old thrombus in the pulmonary vein, but no signs of infiltration. This case teaches the importance of correlation between the symptoms for the diagnosis of tuberculosis.

98. **Cesarean Section and Spinal Anesthesia.**—Polano was able to render Cesarean section painless, in the four cases he reports, by the use of spinal anesthesia. The patients all had flat, rachitic pelves The four children were normal and lively, differing in no respect from spontaneously born children He believes that the children suffer from the general anesthesia in ordinary Cesarean section, and that this is avoided with spinal anesthesia The fact that the contracting power

of the uterus is independent of the anesthetized spinal cord was confirmed by the experiences in these cases. The uterus contracted at once as under normal conditions, and the loss of blood was slight, while the anesthesia was complete.

Virchows Archiv, Berlin.

April, CXCII, No. 1, pp. 1-192.

101 *The Blood in Meningitis. (Verhalten des Blutes bei Meningitis.) G. Zand.
102 *Etiology, Course and Cure of Dissecting Aneurism of the Aorta. F. Schede.
103 Pocket Formation in the Endocardium with Aortic Incompetence. (Endokardiale Taschenbildung bei Aorteninsuffizienz.) A. Schmincke.
104 Experimental Pathology of the Blood Vessels. L. D'Amato.
105 Etiology of Congenital Atresia of the Esophagus with Esophagotracheal Fistula. H. Giffhorn.
106 Pathogenesis of Traction Diverticulum of the Esophagus. G. Riebold.

101. **The Blood in Meningitis.**—Zand concludes from investigations in 10 cases of epidemic meningitis, 2 of suppurative and 6 of tuberculous meningitis that high leucocytosis speaks against the tuberculous variety. When the case is progressing favorably, the number of leucocytes gradually declines even to subnormal figures. In the non-tuberculous forms the leucocytosis is predominantly in the multinuclear neutrophile cells.

102. **Dissecting Aneurism of the Aorta.**—Schede reports, with autopsy findings, a case of dissecting aortic aneurism in a woman of 70, and reviews similar cases on record In his case the dissecting aneurism had spontaneously healed enough to restore comparatively normal conditions, and it was an autopsy surprise.

Wiener klinische Wochenschrift.

May 28, XXI, No. 22, pp. 783-822.

107 *Constitutional Predisposition to Disease on Part of Lymphatics. (Hypoplastische Konstitution und ihre Bedeutung.) J. Bartel.
108 Connection Between Lobule of Ear and Tuberculosis. (Verhältnis des Ohrläppchens zur Tuberkulose) G. J. Rossolimo.
109 *Alimentary Levulosuria. A. R. v. Sabatowski.
110 *Phloridzin Test of Kidney Functioning. (Phloridzinprobe.) V. Blum and H. Prigl.
111 Palpation of Appendix. T. Hausmann.
112 Means of Aborting Attack of Angina Pectoris and Paroxysmal Tachycardia. (Kunstgriff zur Unterdruckung der Anfalle von Angina pectoris und paroxysmaler Tachykardie.) M. Herz.

107. **"The Lymphatic Temperament."**—Bartel writes from Weichselbaum's Institute for pathologic anatomy at Vienna to announce certain conclusions in regard to the influence of defective development of the lymphatic system as encountered in more than 100 cadavers. Individuals with this hypoplastic constitution succumb between the ages of 14 and 25 in 56 per cent. of the cases, mostly to infectious diseases, especially tuberculosis, to which they oppose slight resistance Suicide, diabetes and nephritis, also abnormal pregnancy or eclampsia, are responsible for some of the mortality. Between 26 and 45, exophthalmic goiter, placenta prævia, ectopic pregnancy, atheroma and fatalities under anesthesia carry off 40 per cent. After 46, tumors are exceptionally frequent at all ages, especially glioma, teratoid, epithelial and connective tissue growths. The female sex predominates. He regards the fate of individuals with this hypoplastic constitution as a kind of natural filtering process, fully 56 per cent. succumbing before they reach the reproductive period. All were tall and well developed, even unusually plump in some of his cases, except for the narrowness of the arterial system, the "lymphatism," and the hypoplasia of the genitalia. The vulnerability may be due to some special weakness of the mesodermal layer. The glands in the neck and mesentery were always inclined to be large, and they cut like marrow; the thymus was always large, except in cases of chronic tuberculosis.

109. **Alimentary Levulosuria.**—Sabatowski calls attention to the alimentary levulosuria test as deserving wider application. Positive findings were obtained constantly in cirrhosis of the liver, while the findings were negative with nutmeg liver unless there were marked anatomic changes in the parenchyma. Positive findings are also the rule in infectious diseases, and in jaundice of infectious and toxic origin. Jaundice from obstruction does not give the test unless there are anatomic changes in the parenchyma. He has applied the test in 78 cases of liver affections, giving 100 gm. levulose in lemonade. Vomiting or diarrhea occurred in about 6 cases each in 120 tests. He believes that the levulosuria is independent of stasis of bile, but is a constant accompaniment of every severe liver affection, and may serve to differentiate an infectious process in the liver. In one case a tumor under the right costal arch suggested a liver affection, but the absence of alimentary levulosuria confirmed the assumption of a tuberculous process in the great omentum.

110. **The Phloridzin Test of Kidney Functioning.**—Blum and Prigl regard this test as much inferior to the indigo carmine test, as it has given contradictory findings in their hands. Delay in appearance of sugar in the urine after administration of the phloridizin, beyond the fifteen-minutes interval accepted as the normal standard, is not a certain sign of anatomic or functional lesion in the kidney.

Zentralblatt für Chirurgie, Leipsic.

June 6, XXXV, No. 23, pp. 697-728.

113 *Method of Expelling the Blood from the Lower Half of the Body. (Künstliche Blutleere der unteren Körperhälfte.) Momburg.
114 Technic of Esophagoscopy. Kölliker.

113. **Method of Expelling the Blood from the Lower Half of the Body.**—Momburg has been studying for some time means to render operations as bloodless as possible, and has become convinced that it is possible and harmless to cut off from the circulation the entire lower half of the body. He accomplishes this by drawing a belt so tight that the pulsation in the femoral artery can no longer be detected. A rubber tube nearly an inch in diameter is stretched to its utmost length and then wound from two to four times around the waist of the reclining patient, midway between the crests of the ileum and the costal arch, and fastened. This exclusion of half of the body from the circulation is very simple; it answers the purpose perfectly, and does not injure the intestines or ureter, as the thick abdominal walls spread the pressure; the other abdominal organs lie outside the zone of compression. There does not seem to be any disturbance in the heart action when the patient is thus belted in. The spinal cord is not affected, as the compression is below its lowest point. The conditions are different in animals, but even with them the use of a broad band or interposition of a strip of felt allows the compression to be maintained for an hour and a half without apparent injury. When the compression is to be removed he applies a constricting band to each thigh and raises the legs so that the restoration of circulation occurs gradually, as otherwise there is transient disturbance in the heart action. The respiration was never affected. He has applied this technic in two cases, besides tests on healthy men, who bore the compression without an anesthetic for five minutes. In one of the clinical cases the elastic tube was in place for 43 minutes and in the other for 18 minutes. In the last case a sarcoma of the hip joint required exarticulation, which was done under spinal anesthesia without loss of blood, as the lower part of the body had thus been shut off from the circulation.

Zentralblatt für Gynäkologie, Leipsic.

May 23, XXXII, No. 21, pp. 689-728.

115 *Scopolamin-Morphin in Obstetrics. K Mayer.
116 Obstetric Importance of Blood Pressure and Its Relation to the Work of the Heart. (Geburtshilfliche Bedeutung des Blutdrucks und sein Verhältnis zur Arbeit des Herzens) J M. Slemons and F. C. Goldsborough.
117 A Cytotoxin Which Induces Fatty Degeneration of the Ovary. (Ein Cytotoxin welches die Fettentartung des Eierstocks hervorruft) S delle Chiaje.
118 *Case of Amaurosis in Pregnancy. E Holzbach.
119 Measurement of Gravid Uterus. (Messung des graviden Uterus) Piering.
120 Combined Instrument Sterilizer and Table (Vereinigung von Instrumentenkocher und Instrumententisch.) F. Stahler. (Siegen).

115. **Scopolamin Morphin in Obstetrics.**—Mayer has followed Gauss' technic in 50 obstetric cases. His impressions

are that the procedure does not quite attain its purpose of relieving or banishing the pain of labor, and that the indications for this technic are comparatively limited, while the occasional by-effects and disturbances stand in the way of its unconditional recommendation. He reiterates that this scopolamin-morphin method should never be applied outside of an institution where constant supervision of the parturient by a physician is possible. The general practitioner can not expect to apply this technic in his practice.

118. **Amaurosis in Pregnancy.**—Holzbach reports a case of amaurosis gradually developing in the course of pregnancy. The first signs of optic neuritis were noted about the fourth month; both eyes were affected and external causes could be excluded. The optic nerve was atrophied when the patient was first seen and the indications for interruption of the pregnancy were beyond question. Sight began to improve at once, and within two weeks vision was restored in the right eye. The other eye was first involved and the nerve was atrophic beyond relief. The woman was an x-para of 37, with eight children, and he deemed it necessary to insure future sterility by an operation on the tubes. The case confirms anew the importance of immediate interruption of the pregnancy in case of optic neuritis from this cause.

Gazzetta degli Ospedali e delle Cliniche, Milan.

May 10, XXIX, No. 56, pp. 585-600.

121 Case of Syphilitic Tumor in Stomach. L. Paglieri.
122 Astrology in Medicine. (L'astrologia nella medicina e il "fasciculo" di Petrus da Montagnana.) G. Tanfani.

May 17, No. 59, pp. 617-632.

123 *Pyretic Phase in Action of Quinin. (Fase piretica nell azione del chinino.) S. Mircoli.
124 Cutaneous Serum Reaction in Syphilis. (Fenomeni di allergia nei sifilitici.) E. Tedeschi.

123. **Pyretic Phase in Action of Quinin.**—Mircoli reports experimental research which corroborates the views of the Roman school in regard to the best technic for administration of quinin. If given too soon either it has no action or the pyretic phase of the quinin influence will be superposed on that of the malaria. Given too close to the paroxysm the quinin does not have time to manifest its antipyretic action. The sensitized organism is liable to react with the febrile phase, and the febrile condition is magnified by the combination of the malarial and quinin pyresis. In the subcontinuous form, lacking the control of the thermic cycle, if quinin is given by routine it may induce continued high temperature from the thermic reaction to the quinin by the soil sensitized by the malaria. The "Roman" technic is the administration of a single dose of 1 or 2 gm. (15 or 30 grains) of the quinin salt a few hours before the paroxysm.

Policlinico, Rome.

May, XV, Surgical Section, No. 5, pp. 193-240.

125 Modifications in Blood in Preventive Hemostasis with Esmarch-Silvestri Technic. (Modificazioni della crasi sanguigna nell'emostasi preventiva.) T. Casoni.

May, Medical Section, No. 5, pp. 193-240.

126 Are There Latent or Rudimentary Types of Dystrophy of the Muscles (Erb)? Is Recovery Possible? A. Marina.
127 Tumors in Corpus Callosum. G. Panegrossi.
128 *Raynaud's Disease and Exophthalmic Goiter. A. Piazza.

May 31, Practical Sect'on, No. 22, pp. 677-708.

129 *Perineal Prostatectomy Preceded by Suprapubic Cystostomy in Septic Case. R. Cassanello.
130 *Parotitis from Pneumococcus Infection. E. Bargellini.

128. **Raynaud's Disease and Exophthalmic Goiter.**—Piazza has recently observed a case of this combination in a young woman. The first symptom of Raynaud's disease appeared at the age of 6, and progressed to trophic disturbances. The symptoms of exophthalmic goiter appeared about puberty.

129. **Prostatectomy in Septic Cases.**—Cassanello's patient was a man of 63, with complete septic retention of urine, enormous distention of the bladder, and serious general intoxication. Suprapubic cystostomy with local treatment of the urinary passages improved conditions to such an extent that perineal prostatectomy could be successfully performed a month later.

130. **Parotitis from Pneumococcus Infection.**—Bargellini reports three cases of pneumonia in which bilateral parotitis developed toward the crisis. In one case the process progressed to necrosis of the gland. Streptococci could be cultivated from the pus, after the incision, and healing was not complete for more than a month. The process healed in the second case immediately after evacuation; in the third case the process subsided spontaneously.

Norsk Magazin for Lægevidenskaben, Christiania.

June, LXIX, No. 6, pp. 509-640.

131 History of Conceptions of Cause and Nature of Disease. (Forskjellige tiders ideer om sygdommenes aarsager og væsen.) A. Fonahn.
132 *Multiple Cancers. A. De Besche.
133 Principles of Psychiatry. (Psykiatriens grundtraek.) R. Vogt. Commenced in No. 4.
134 *Nodular Rheumatism in Children. (Subkutane knuder ved rheumatismus acutus i barnealderen med sektionsresultat.) K. J. Titlestad.

132. **Multiple Cancers.**—De Besche reports 6 cases and reviews others in the literature in which malignant neoplasms of different histologic structure occurred in the same individual, generally each with its distinct metastases.

134. **Nodular Acute Rheumatism.**—Titlestad reports a case of acute rheumatism in a girl of 6 with numerous subcutaneous nodules. Most of the nodules subsided spontaneously in the course of a week or so. The little patient had also a valvular defect, and collapse followed a dose of 0.5 gm. (7.5 grains) of antipyrin given to arrest the pain of the rheumatism. The child succumbed a few days later.

Book Notices

MODERN MEDICINE, ITS THEORY AND PRACTICE. By William Osler, M.D., Regius Professor of Medicine in Oxford University, England. Assisted by Thomas McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. Vol. IV. Cloth. Pp. 865 with illustrations. Price, $6.00. Philadelphia: Lea and Febiger, 1908.

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Original Articles

DISEASE OF THE CEREBRAL VESSELS, WITH ITS PROBLEMS IN DIAGNOSIS.[*]

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Diseases of the arterial system in the brain often give rise to a misleading and confusing chain of clinical symptoms.

Not infrequently these symptoms are almost identical with those of well-known diseases, such as tumors, abscesses, cysts, and hemorrhages. The diagnosis is, therefore, empirical or impossible, particularly if no gross evidences of disease are found in accessible or palpable vessels.

Changes in the vessel wall may be dependent on a defective development of the media, which leads to aneurismal pouches, minute, moderate, or large. Atrophy, inflammation, or degeneration follows wasting disease. Acute arteritis from infective processes or intoxications, extensions of disease, septic or otherwise, from adjacent structures, and from external injuries, have been clearly demonstrated by bacteriologic and histologic investigations. Thromboarteritis, in which the brunt of the attack is sustained by the intima and media, may result in the organization of a thrombus and the partial or complete obliteration of the vessel lumen. Arteriosclerosis, a circumscribed or diffuse thickening of the arterial walls, especially of the intima, secondary to certain inflammatory or degenerative changes in the media, covers such a broad field and is so well appreciated that further description is unnecessary.

The following cases represent a form of vessel disease in which there are fairly well-defined focal manifestations, which might easily fall under the head of brain tumor or other gross disease, and yet not represent the ordinarily recognized forms of cerebral arteriosclerosis. These cases also illustrate disease of the arteries of the brain without other marked evidences of general vessel degeneration.

CASE 1.—L. W. R., male, aged 45, married, telegrapher.

Family History.—Father died of bronchitis at 48; mother died of old age at 77. One brother and one sister are living and well. One sister is dead; cause unknown. Two sons and a daughter are living and well, except that all are somewhat nervous.

Personal History.—General health is fair. He can not recall any severe illness. He had gonorrhea years ago; syphilis, he denied. He had been twice married; neither wife had any miscarriages. Twenty years ago, the patient fell, striking his spine, and sustained some sort of injury, which necessitated his being kept in bed in a prone position for ten weeks. There was apparently a complete recovery.

Present Disease.—Ten years ago he began to have jerking in his legs at night with occasional cramps. This condition grew worse, and seven years ago his arms also began to jerk, but after a time he improved in this respect, and his upper extremities are no longer affected, though he still has slight jerking in his legs, both day and night. About ten years ago he also began to lose the power of hearing in the left ear, and at the end of two years the loss was complete. A few months later, hearing in the right ear became dull, but he was still able to continue his work as a telegrapher until one morning he woke to find himself absolutely deaf. From that time till two years ago, he did clerical work. Ever since his deafness appeared, he has had noises in his head. There is constantly present a sound as of singing insects, and, in addition, there is at times a roaring like the fall of water, sometimes near, again far away, and at times there is a noise like that of the intermittent tooting of an automobile horn, sometimes high and sometimes low in pitch. This latter sound occurs only when he is nervous or worried. Sexual power has been weak for six years, and for the last year wholly gone. Two years ago he lost control of his bowels and bladder. After a time, this was regained, but is now again lost. During the last five years he has had attacks of dizziness from time to time, possibly due to digestive disturbances. When he becomes dizzy, he is also nauseated unless he assumes a recumbent posture. If he lies down, the nausea goes away, and if he closes his eyes, the dizziness also disappears. During the week before consulting me he had been dizzy always when rising from a recumbent posture. Four years ago he began to shuffle his feet when walking, and of late his gait is decidedly staggering. He still writes fairly well, but at times his hand jerks and the pen drops. He is confined to the bed and a chair practically all the time.

Physical Examination.—He is a medium-sized man, fairly well developed and nourished; skin, healthy in appearance; muscles, small. Temperature, 98.6 F.; pulse, 64, regular and normal in volume. Examination of heart and lungs is entirely negative. Radial and temporal arteries are soft. Abdominal organs are normal except for a considerable amount of gas in the stomach and intestines.

Urine: Clear, dark amber, strongly acid; specific gravity, 1.028; trace of albumin; no sugar; cylindroids and considerable mucus.

He complains of vertigo when he first rises, and says this is not worse when it is dark. He has an occasional slight headache—never any that is severe; no tenderness about the head. The eyes are deep set. There is no conjunctivitis, ptosis, lagophthalmos, nystagmus, or strabismus. Vision is fair. Examination of the ears is negative, except that he is absolutely deaf. Taste and smell are normal. No disturbance of cutaneous sensibility for touch, pressure, pain, or temperature can be demonstrated. The patellar reflexes are both increased; no ankle clonus. Marked Romberg sign is present with moderate ataxia in the hands; no Babinski sign. The muscles are all small. Those of the upper extremities are soft and flabby; those of the lower limbs are spastic; no atrophies; no fibrillary twitchings. He walks with a distinctly spastic, staggering gait.

Mental Condition.—His expression is sad but intelligent, and he has no peculiarities of dress or attitude. He is oriented as to time, place, and surroundings comprehends what is said to him and answers relevantly. His memory is good. He is evidently much depressed and worries a great deal because he is unable to get about. At times he is extremely irritable, no hallucinations or delusions.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Course of Disease.—Oct. 26, 1907. He has been failing since last note. He says that he is losing flesh and that the power in his right hand is failing, though examination does not confirm the latter statement. Suffers severely from constipation and passes a limited amount of urine. His feet and legs become cyanotic and swollen if held in a dependent position. Almost ever since the last note, he has had a free flow of saliva, which, if swallowed causes vomiting. He has a bitter taste in his mouth and has a constant feeling of distention and slight pain in his stomach. Taking food relieves this for a short time, but afterward seems to make it worse. Teeth are not tender, and gums are perfectly normal. Right pupil is a little larger than the left, both react normally for distance but sluggishly for light. Patellar reflexes are increased, no ankle clonus. He thinks that his eyesight is worse, and he is sure that he does not see so well during the dizzy spells as at other times. He says that he suffers greatly from mental distress.

Nov. 14, 1907. Much of the time the patient is extremely irritable and depressed. He walks with increasing difficulty and thinks that his eyesight is failing. He has no headache. The flow of saliva decreased for a time, but is again excessive.

Nov. 18, 1907. Dr. William R. Murray examined his eyes to-day and reported: "Lids and external ocular muscles normal. Cornea normal. Iris normal, reacts to light and convergence. Crystalline lens normal. Optic discs normal (lamina cribrosa prominent). Retinal arteries slightly contracted and pale, otherwise normal. Fundi show no pathologic changes. Visual fields (roughly) appear normal. Vision (R. and L.) for distance good. Reads fine print at ten inches. Examination of eyes negative."

Dec. 13, 1907. The man constantly complains of being weak, can not sit up except for short periods, he scarcely ever suffers from vertigo now. He has no pain except an occasional slight headache. Expression is bright. Sensibility to pressure and pain are about normal in upper part of body, but distinctly impaired in the legs and lower abdomen. Deep reflexes in the upper extremities are about normal, but are much increased in the legs. There is more or less spasticity everywhere, but especially in the lower extremities. No ankle or patellar clonus. No fibrillary twitching is noted; no contractures. There is no atrophy of tongue. He is still spitting very freely.

May 27, 1908. The man is in practically the same condition except that his ataxia is greater.

CASE 2.—Male, aged 48, married, train dispatcher, was seen June 14, 1907.

Family History.—Father died at 66 of kidney trouble, he had been a heavy drinker. Mother is living at 76 and well. One brother died of dysentery, and one brother drinks to excess. The maternal grandfather died of paralysis. There is no other nervous or mental trouble in the family.

Personal History.—General health in early life was fair. He had typhoid in childhood and gonorrhea at 17. Syphilis was denied. He was very ill with mountain fever twenty-four years ago. At different times he had a number of abscesses. He drank some every day, but rarely to the extent of being intoxicated. He used tobacco to excess habitually, his cigar bill amounting to $35 a month. He was married at 22. His wife has never been pregnant. He has never been injured.

Present Illness.—About twenty-four years ago, when excited over a little family trouble, he had an attack of jerking of all the muscles, lasting one-half hour. A second similar attack, only more severe, occurred seven years ago, and again during a family quarrel. It lasted one hour, and was not accompanied by unconsciousness. He did not fall, but was lying down at the time. For the last sixteen years he has been failing in health, and fourteen years ago he noticed some unsteadiness in gait. This latter has gradually grown worse since. Sixteen years ago he first complained of the wind and the pillows hurting his ears, and not long after that he began to slowly lose his hearing. The explosion of a cannon cracker is thought by the family to have hastened the latter. The trouble began in the right ear, and eight years ago the left also began to be affected. Eighteen months ago the right ear had become absolutely deaf and eleven months ago he suddenly lost hearing completely in the left ear, the change occurring within a few hours. From the outset of his ear trouble, he was greatly bothered by noises in his ears, a constant roaring with intervals of the sound of blowing whistles and the tooting of engines. These have continued ever since. On one occasion, since he became deaf his wife dropped her scissors and made considerable noise. He threw down the paper which he was reading, said he must have dropped his knife and began searching for it. He also said that at times, when holding his watch in hand, he could hear it ticking. His ataxia is now so great that he walks only with the assistance of a cane and, even then, with a distinctly staggering gait. His sexual power has been failing for sixteen years and for one and one-half years he has been entirely impotent. He is much constipated and for several years has often gone from seven to ten days without a bowel movement. For the past year there has been some loss of bowel control. Four years ago his urine began to dribble at the end of urination, and for three years he has had no control whatever of his bladder. There has been a tremor of the hands for years but not of such extent as to interfere with his writing until recently. About four years ago he had some attacks when his head would fall to one side or the other, and he would be unable to control it. These were of very short duration. He has had lumbar pain at times, but no headache. He always has vertigo if he moves suddenly, and frequently at other times also. He sleeps fairly well, but often talks in his sleep and sometimes very loudly. He is a little more querulous and nervous of late, but there was no distinct mental change previously.

Physical Examination.—He is a rather large man, fairly well developed and well nourished. Muscles are of fair size but flabby. Temperature 98.4 F.; pulse 80 and of normal quality. Lung examination is entirely negative. He has no cough. Apex beat of heart is slightly outside the normal line; no murmurs. There is a moderate degree of thickening of the radial and temporal arteries. Abdominal organs are apparently healthy. Sexual apparatus is normal.

Urine: Clear, amber, acid, specific gravity 1.024, no albumin; no sugar. Microscopic examination is negative.

He has an anxious, worried expression, does not complain of pain. Eyes are bright, both lids droop slightly and equally; there is moderate arcus senilis. There are no ocular palsies, no double vision, no nystagmus. Pupils are equal and react sluggishly to light, fairly well as to distance. Vision is good. Ophthalmoscopic examination is negative. He is absolutely deaf. Taste is normal, but smell is very much impaired possibly on account of a prolonged condition of catarrh. There is no disturbance of sensibility to touch, pressure, or pain. The deep reflexes of the arms are increased, and of the legs very much increased, no ankle clonus. Babinski sign is uncertain. Abdominal and cremasteric reflexes are normal. There is a fairly well-marked tremor of the extended fingers, no paresis or paralysis of the face or extremities.

Course of Disease.—At the time of his examination he was advised to go to a hospital but he declined to do so and remained for four days at a hotel. On July 8, while sitting at dinner, he suddenly became unusually dizzy. With assistance he was able to get to his room where he lay down on the bed. Shortly after he began to scream loudly and continued this for some time, but when seen one hour later he was lying in bed in a stuporous condition. He was transferred to the hospital where his temperature was found to be 98.2 and his pulse 84. The next morning the following conditions were noted:

He is conscious, but has a dull, heavy look and responds slowly to whatever is said or done. Is distinctly emotional. When questioned as to his experience of the preceding day he says that while seated at the table he experienced an unusual sensation in his head. This became gradually more pronounced and he feared that he would die. Says he screamed in order to obtain help. He can not describe the sensation in his head other than to say that it seemed like an 'unusual commotion.'

His temperature has ranged from 99.6 to 102.2 F., and his pulse from 100 to 110. There is some paresis of the left face, including a distinct drooping of the left lid. He appreciates touch in the left face but not the pricking of a pin. Tongue can be protruded straight. There is nystagmus of vestibular type with quick component upward and to left. Vision is very bad, probably on account of nystagmus. He has a constant sense of dizziness even in the recumbent posture. There is no ocular palsy. He can not swallow, and there is no movement of the throat on the left side. Deafness is complete. Apparently there is no disturbance of sensation in arms or body. There is possibly numbness in the right leg. Both knee jerks are exaggerated; double ankle clonus; no Babinski sign.

July 10, 1907: He has been failing since yesterday. Temperature dropped from 100 to 103.2 F., and pulse from 106 to 132. Nystagmus continues with some tendency to a rotary movement. He is very dizzy. Pupils react to accommodation and slightly to light. There are no ocular palsies. Left face is still numb and shows some motor impairment. He can not swallow and there is no movement of the left side of the throat. Left hand is very ataxic. No abdominal or cremasteric reflex is obtainable. Both knee jerks are exaggerated and right leg is rigid. Ankle clonus is present on the left side; no Babinski sign. He is unable to retain urine. He complains of no pain except slight backache. He died at fifteen minutes past midnight.

Autopsy.—The postmortem was made the next day at noon.

Macroscopic Appearance: There are some adhesions at the apex of the right lung. Both lungs are congested and edematous and the bronchi are full of mucopus. There is a beginning pneumonia in the left lower lobe. Heart is moderately enlarged. There is an old endocarditis and a moderate degree of atheroma of the aorta. Liver is normal. Spleen is soft. Left kidney is normal in appearance. The right kidney shows marked atrophy and hydronephrosis. The ureter also is enlarged, but shows no constriction at any point, and there is no indication of distension of the bladder. Prostate is normal. The calvarium is very thick, especially anteriorly. Dura is not adherent; the pia-arachnoid is thickened and opaque, especially along the larger vessels, but is not adherent. There is no atrophy of the brain substances. Ependyma is normal. All the large vessels at the base of the brain are very much diseased; they are increased in diameter; the walls, except in the region of the aneurismal dilatation, are much thickened and show many patches of distinct nodular sclerosis. The basilar artery is almost uniformly distended and measures a little over one cm. in diameter. Its walls are thin and almost translucent, except at a few small points. The left vertebral artery is moderately enlarged; the right is greatly enlarged, and at the point of junction with the left measures 0.8 cm. in diameter. The right inferior cerebellar artery has three distinct saccular aneurisms in its course, the largest measuring 0.7 cm. in diameter. The left inferior cerebellar artery has one small saccular aneurism and one rather fusiform aneurism, the latter measuring 1.5 cm. in its greatest diameter. This entire vessel and its branches for some distance are completely obstructed by blood clots. There is a well-marked extravasation of blood into the pia-arachnoid in the region of distribution of this vessel. The left anterior cerebellar is very small and not aneurismal; the right, also small, is not dilated. The right and left posterior cerebral arteries are very much sclerosed, the left having two small saccular aneurisms, and the right one aneurism. All the other vessels, at the best, are very much thickened, and at points show irregular dilatation, but none have any distinct aneurismal formation.

Microscopic Examination: On section and microscopic examination of the vessels the intima is found greatly thickened in places, with well-marked areas of degeneration. There is very little elastic tissue in the intima. The media in many places is thin, and this is particularly true in the region of the aneurisms where it is almost wholly absent. The elastic tissue of the media is much broken up, and there is also well-marked round-cell infiltration of this coat, as well as of the adventitia. The thrombus is infiltrated with leucocytes. Section of small vessels from the cortex shows the ordinary changes of arteriosclerosis rather well marked.

Case 3.—Male, aged 48, married, farmer, referred to me by Drs. Kilbride and Kelly of Canby, Minn.; was seen Dec. 16, 1907.

Family History.—Father died at 75 of paralysis; he had been temperate. Mother is living and well at 78. One brother died of nephritis at 40; one sister of tuberculosis and one sister of tuberculosis and nephritis. Four brothers and two sisters are living and well. The patient is married and has had six children, one of whom died in infancy; the others are well. There is no nervous or mental trouble in the family.

Personal History.—He was sickly in infancy, but after that period his general health was very good. He can not recall any severe illness at any time in his life. He has had occasional light attacks of rheumatism. Venereal diseases he denied. He has been temperate in the use of alcohol. Fifteen years ago he had a fracture of the right leg, which healed readily.

Present Disease.—Apparently he was perfectly well up to six months ago. At that time was working in the field and struck his left hand, just above the knuckle of the forefinger, with a wrench. The injury was slight, causing a moderate flow of blood, but no great pain. He continued at his work for a time, but at noon, when washing away the blood from the hand, he noticed a twitching of the first two fingers. This was slight, but not under his control. For three weeks longer he continued at his farm work, and during this period the twitching spread slowly to other areas. It was always worse when he was excited, and at such times appeared in parts which were entirely quiet when he was calm. The movements involved the left arm, shoulder, and neck, in the order named. Then the left foot and leg became affected, and when seen, Dec. 16, 1907, six weeks after the onset, there was twitching of the whole body, but more pronounced on the left side. He walked with difficulty and could scarcely button his clothes, especially if at all excited. He said that he had had vertigo at times for the past year. He was easily confused and cried at times.

Physical Examination.—He is a medium-sized man, fairly well developed and nourished. Heart and lung examination is entirely negative, except that his pulse rate is 88. There is a moderate degree of thickening of the radial and temporal arteries. His bowels move regularly and are entirely under his control, but he can not hold his urine so long as he could formerly. Sexual power is somewhat impaired.

Urine analysis is negative.

He has a rather dull, heavy expression, and complains of being weak. He has frequent attacks of vertigo, but can not associate them with any special time or act. He says that he has no pain. There is moderate arcus senilis but no ptosis, lagophthalmos, nystagmus, or strabismus. Vision is good with the aid of glasses. Examination of eye-grounds is negative. Thre is no defect of hearing and he has no subjective sounds. Sensation for touch, pressure, pain, heat, and cold is normal in all parts of the body. The patellar and Achilles reflexes are increased on both sides, but more so on the left. Ankle clonus is present on left side, but not on the right. There is well-marked ataxia in both upper and lower extremities, more marked on left than on right. All the muscles on the left side are spastic; there are no vibrillary twitchings. There is a constant, well-marked, fine tremor in left arm and hand, and at times this is seen in all parts of the body. It is increased by excitement or movement and is always worse on the left side. There is some incontinence of urine; none of feces.

Mental Condition.—Expression is dull and heavy. He has no peculiarities of dress or attitude. He talks but little and then only in response to questions. Is fairly well oriented as to time, place, and persons. His memory is much impaired, and he is slow to comprehend what is said to him. Often even a simple question must be repeated two or three times. His answers are only fairly relevant. He realizes that he is ill, but has no real insight into his mental condition. There are no delusions, illusions or hallucinations.

Course of Disease.—He was sent to the hospital and placed in bed. The next day his movements seemed about the same as when first examined, but the spasticity on the left side had increased and at times was much worse than at others. Occa sionally he was restless and, in an aimless sort of way, kept trying to get out of bed. His temperature was normal, but the pulse ranged from 72 to 96. There was involuntary urination. Two days after admission he had two convulsive seizures, the first one lasting eight and the second five minutes. The movements involved the entire body, but the left side more than the right. The next day he had another seizure of the same sort. The rigidity of the body was constant and much greater than on any other previous occasion. The left hand was tightly clinched. He swallowed with difficulty and was much more stupid. Temperature in the evening was 99.6 F.

December 20: There was not much change except that he was worse mentally, but on the following day he became partially paralyzed on the left side, and the right side became more rigid. His temperature was normal, but the pulse was 108 and weak.

December 23: He was quite unable to swallow, his stupor had increased, the paralysis on the left side was complete and the rigidity on the right side was much worse.

December 25: The following notes were made on this date: His expression is very dull. He talks little and only in whispers. Eyes are open, no ptosis or strabismus. Pupils are equal and react normally for light and distance. Tongue is dry and coated, protrudes slightly to the right. Right arm is rigid and strongly flexed, the fingers being drawn firmly into the palm. Right leg is extended and spastic, but less so than the arm. Left arm and leg are slightly spastic and almost completely paralyzed. The twitching is marked in the right hand, leg and foot; very slight in left hand and foot and, in the hand, is confined almost entirely to the thumb and forefinger. At times there is slight twitching in the right upper lip. He can move the right arm and leg but slowly and with difficulty. On the left side there are ankle clonus and greatly increased patellar reflex. On the right side there is no clonus but the patellar reflex is increased. Achilles jerk is increased on both sides. The head is distinctly drawn to the right side, though the muscles on both sides of the neck are firm. The left pectoral muscle is moderately contracted; the right firmly so. The right rectus abdominis is very firm; left flat. No abdominal reflex can be obtained on either side. Cremasteric reflex is absent on the left and slight on the right. There is involuntary passage of urine and feces. On account of his mental condition, it is impossible to determine anything as to sensibility. Pulse is weak and in the neighborhood of 120.

December 26: He was unable to swallow and was fed by nasal tube. Pulse ranged from 120 to 128, and was very weak and irregular. The right side had also become paralyzed. He was constantly in a condition of stupor. He died December 27, apparently from progressive failure of heart and respiratory action.

Postmortem Findings.—Dura is not adherent and is normal in appearance. Pia-arachnoid is thickened and very edematous in many places, not adherent to the brain. All the pial vessels are much distended with blood. The arteries at the base are thickened but uniformly so, and there are no calcareous plates. The right vertebral artery, at about the level of the first cervical nerve, shows a well-marked fusiform aneurism, 0.75 cm. in length and about 0.33 cm. in breadth. Almost directly opposite there is a saccular aneurism of the left vertebral 0.4 cm. in diameter. There is a moderate degree of atrophy of the cerebral substance in the anterior part of the brain. Section shows nothing except a general condition of hyperemia. Ependyma is smooth. On microscopic examination of the vessels there is a thickening of the intima and of the media with considerable increase of the elastic tissue.

The literature covering these specific findings is not very satisfactory.

The brain-tumor symptom-complex of arteriosclerosis is mentioned here and there by various writers, but no one author has given it his undivided attention. The majority of writers describe conditions under a general head and designate all vessel changes as arteriosclerotic.

Practically all cases reported seem to have ended by rupture of the vessel, with the usual manifestations of apoplexy. In Case 2 the patient died from obstruction of the circulation in the cerebellum and brain-stem. In Case 3 the patient died from rather uncertain causes. The most evident postmortem finding, other than the vessel changes, was edema.

Mummert[1] calls special attention to the rarity of cerebellar aneurisms.

Rindfleisch[2] speaks of the rarity of cases of aneurism of the basilar artery seen clinically, often symptomless until rupture occurs and then mistaken for ordinary apoplexy. If symptoms are present during life, a diagnosis of brain tumor is most commonly made.

Saathoff[3] refers to the position of the basilar artery whereby it is frequently exposed to undue pressure from indirect injuries.

Grunwald[4] gives considerable attention to the differential diagnosis of disease of the vessels at the base of the brain from other conditions with which it is likely to be confused.

Joseph Collins[5] has writen an exhaustive treatise on the different phases of cerebral arteriosclerosis, in which he refers to the brain-tumor symptom-complex.

Fisher and Brooks[6] discuss the relation of arteriosclerosis to diseases of the nervous system, but do not refer to aneurisms or other gross lesions of the basal vessels.

Bramwell[7] covers the field of intracranial aneurisms and reports cases with focal manifestations, but does not refer to cerebellar lesions or symptoms.

Barrett[8] has contributed an excellent article on the histology of cerebral arteriosclerosis with its clinical signs.

DISCUSSION.

Dr. H. A. Tomlinson, St. Peter: I have the records of about two hundred and fifty cases among the insane, and about thirty others, with regard to the postmortem findings in the cerebral blood vessels. My attention has been called particularly to the significance of the interference with the egress of blood from the brain, and I find that but little attention has been paid to this aspect of the subject. In the average individual, after 35 years of age, there is some piadural adhesion at the vertex, interfering with the emptying of the pial veins. In the defective and the degenerate, the tendency is for these adhesions to extend forward, finally involving the drainage of the area of the frontal lobes particularly. On account of the peculiar arrangement of the outlet of the pial veins into the sinus, the narrowing of the lumen of this outlet is a cause of serious obstruction; while the piadural adhesions along the median fissure, and at the base, interfere with lymph drainage. Therefore, aside from the diminished blood supply, resulting from the arteriosclerosis, there are the factors of the retained waste products, and the mechanical effect of lymph accumulation in the arachnoid space.

I have been interested to note two apparently different types of degeneration in the cerebral vessels: the one the usual productive periarteritis or endarteritis; and the other the not so common atrophic form of degeneration, in which there is apparent atrophy, beginning in the intima and extending to the media. This is the usual senile change, and just to the extent that it is presenile, do we find the symptoms resulting from chronic cerebral anemia; the confusion in mental effort, loss of memory and progressive muscular weakness, which disappears after a period of rest and improved metabolism, only to reappear on the resumption of active life.

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7. Clinical Lecture on Intracranial Aneurisms and Meningeal or Extracerebral Hemorrhage, Clinical Studies, 1905-6.
8. Jour. Nerv. and Ment. Dis., April, 1905.

I believe that there is, under certain conditions, an angioneurotic edema, involving small areas of the cortex, which gives rise to focal symptoms that disappear as suddenly as they come; also, that in the so-called uremic palsies there is a local ischemia followed by hypostasis; because, in all the cases that I have had an opportunity to observe these conditions existed in other organs or parts, and particularly in the kidneys.

Dr. C. Eugene Riggs, St. Paul: I find in all cases that the use of the manometer is a matter of much practical importance. I remember a case of arteriosclerosis which I saw about a year ago. The patient had had a slight hemorrhage evidently, recovered from it, but complained of a great deal of dizziness and vertigo and much general distress and the indefinite symptoms which arteriosclerotics describe. The blood pressure registered 275, and then the tubing of the manometer broke, so that I could not measure the pressure further. Treatment for the relief of pressure proved efficacious. The patient is living very comfortably, but of course is still arteriosclerotic. I have had a number of cases in which much benefit has been derived by the use of the well-known remedy which we are almost inclined to disregard because of our familiarity with it, calomel. Calomel has some influence on metabolism and probably thus affects arterial tension.

The clinical picture of arteriosclerosis is very confusing. There are undoubtedly many forms of pathologic manifestations included under this name. Whether or not arteriosclerosis is due to toxemia affecting the smaller vessels and the capillaries and thus increasing the tension and after a while causing the change in the vessels, is a matter of theory perhaps, but certain it is that in these cases if the patient is put to bed and rested, given calomel and put on a light diet, usually the blood pressure will come down, and the vertigo will be materially relieved; and it is a very common thing to find the patient going on for years without any material change. Dr. Clifford Allbutt speaks of a case which he observed for nineteen years in which there were various attacks of hyperpiesis which were relieved, after which the patient was comfortable.

Dr. Julius Grinker, Chicago: It is the cases which present focal symptoms which trouble us rather than the ones presenting general symptoms of arteriosclerosis. We are often confronted with these cases and are asked: "Is this a tumor, or is it cerebral arteriosclerosis?" Only recently I have been puzzled, as never before, by a case in which I was consulted as to whether or not there was a tumor of the cerebellum. The symptoms were very much like tumor symptoms, and resembled one of the cases which Dr. Jones so ably described—almost a sister case in every detail. It was very difficult to decide whether we had to deal with a tumor causing vertigo and incoordination of the cerebellar variety, a type of cerebellar arteriosclerosis. I believe that the only way we can learn something about these cases is by having as many postmortem reports as we are able to obtain, and then correlating the symptoms with the findings, because this subject needs revision and classification. The symptoms are rather vague; we are often unable to make a positive diagnosis, because cases presenting these symptoms may turn out to be neoplasm or internal hydrocephalus, or generalized arteriosclerosis or aneurismal dilatation of the arteries at the base of the brain.

Dr. Arthur S. Hamilton, Minneapolis: We have, of course, many cases of cerebral arteriosclerosis, but gross changes, such as were found in Dr. Jones' cases, and yet not including the well-known miliary aneurism, are, I think, not very common. There is a fair number of instances of aneurism of some one of the cerebral vessels on record, but they are rarely recognized until they are found postmortem. In most of the individuals a previous diagnosis of brain tumor has been made but, if no symptoms have been present during life, death, when it occurs, is usually assumed to be due to apoplexy from the ordinary causes. Very rarely, when the aneurism is large, an accurate diagnosis has been arrived at through the recognition of a bruit, but this is quite impossible when the aneurism is small. In at least one of Dr. Jones' patients the symptoms were evidently due, not to the size of the aneurism acting very much as a tumor, but to the disturbance of the circulation in important parts of the brain. Aneurism of the cerebellar vessels is particularly uncommon, probably because these vessels do not receive the full force of the blood pressure from the middle cerebrals, and because they are not often the seat of emboli which lodge and occasionally produce aneurisms behind them. Very recently I had an opportunity to examine the brain of a comparatively young woman, in whom, following the development of a very extensive vegetative endocarditis, an embolus had lodged in the right Sylvian artery and, directly below the point of lodgment, an aneurism, about the size of a pea, had developed.

Dr. W. A. Jones, Minneapolis: I want to emphasize the varying degrees of disease of the vessels other than the generally accepted arteriosclerosis. It seems to me that these cases emphasize the necessity of differentiating between arteriosclerosis and other diseases of the vessels. I appreciate the very great difficulty there is in making a positive diagnosis in any of these cases. The blood pressure in these cases is not great—in fact, it is often either normal or below normal. I do not know whether it would be helpful or not to take the blood pressure. It may be that that was improperly omitted. The venous return to which Dr. Tomlinson refers is a very natural sequence of the condition of the blood vessels that we found in these cases; and the obliteration or the simple subsidence of what was formerly a vessel would of necessity give rise to great changes in the cerebral circulation.

CEREBRAL INHIBITION WITH RELATION TO MOTOR FUNCTION.[*]

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From time to time there have been cases under observation in the St. Peter State Hospital in which there was loss of capacity to coordinate muscular movements involved in prehension and locomotion. These cases could not be placed in any of the usual categories, because there was no evidence of organic disease in the general nervous system. In some of these cases the loss of control of muscular movement was so great that any voluntary action was impossible, while in others there was, apparently, complete palsy. We never have been able to determine the nature of the involvement of the central nervous system in these cases, because there has always been more or less complete recovery of functional capacity, and none of the cases has come to necropsy.

So long as these peculiar manifestations occurred in the ordinary course of brain degeneration, they were considered to be a part of the sequence to these degenerative changes, as I reported in two papers on the subject.[1] However, a number of cases have been under observation during the past three years, the course of which would indicate that extreme incoordination of voluntary movement, and even palsy, may result from simple cerebral inhibition.

The term inhibition is used here to define that function of the cerebrum which interferes between the afferent impulse and the direct motor response. During the progress of development, in the integration of the nervous system, this function has resided in the ganglia at the cephalic pole, and its development has been in a direct ratio with the growing complexity of the conditions in the environment of the animal; also *pari passu* with the multiplication of the specially organized areas for the reception and transmission of afferent impulses. Along with the increasing complexity of the organization has gone a corresponding amplification of the reflexes, and an increasing diversity of the functional elements of which they are composed; so that in the most multiform, there is a sequence, resulting from the correlation of a series of simple reflexes that are primarily antagonistic. Consequently, if anything occurs to interrupt this sequence, or disarrange the series, the antagonism of the individual elements becomes dominant. Therefore, along with the development of that part of the nervous system concerned with inhibition, there has gone the building up of another portion, the function of which is to maintain the sequence among the elements of the reflexes, and the proper relation in the series; that is, the function of coordination.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Sensory and Sensory-Motor Disturbance Associated with Insanity, Jour. Nerv. and Mental Dis., October, 1892; The History of Three Cases of Peculiar Motor Manifestations in the Insane, Jour. Nerv. and Mental Dis., December, 1892.

In experimentation on the lower animals with regard to the conduction of sensation, and the resulting reflexes, it is first necessary to separate the cerebrum from the rest of the nervous system, in order to prevent the inhibition of the movement following the stimulus, or its modification; and to reduce the reflex to its simplest form. As we go up in the animal scale, the association of the reflex with the coordinate becomes so intimate, and the functions of the general nervous system so interdependent, that we can not separate them completely; until, in the highest forms, where this inhibitory control is greatest, this separation of the two is incompatible with the continuance of life. In other words, inhibition becomes so dominant that any sufficiently powerful shock to the general nervous system, and particularly one involving mutilation or separation of the spinal nervous system from its connection with the cerebrum, brings about an immediate and permanent cessation of activity. Even in those animals in which this isolation of the cerebrum is compatible with continued life, the necessary operation must be performed with the most delicate care, in order to prevent permanent inhibition of function. That is, the act of mutilation must be as free as possible from the elements of a stimulus. So far as I am aware, the converse of these observations has not been made, or at least not formulated with relation to incoordination and disintegration of motion in the most highly developed form of organization.

Any attempt at formulation of the process involved in the generation and coordination of the motor reactions involved in the highly complicated reflexes concerned with the adaptation of the individual to the varying conditions in the environment must necessarily be speculative, and, judging from recent discussions, we have lost a great deal of our supposed certainty as to the area of origin of the motor impulses for the most complicated reflexes. It has always seemed to me an inevitable deduction from the mode of development in the nervous system, that as soon as the organism has developed to the extent that impressions of different kinds, and various degrees of intensity, begin to arrive simultaneously in the central ganglia, the first and chief function of the elements in the central area must be to inhibit the efferent impulse, until the afferent impulses can be related and coordinated. As the nervous organization becomes more complicated, so as to be able to adapt the activities of the organism to the conditions in the environment, the number of elements that enter into the composition of a coordinate movement becomes not only very great, but these elements are also very diverse; with the result that the movement becomes a series of related antagonistic reflexes, in a regular sequence. If anything occurs to break up this series, or to interrupt the sequence, the movement is incomplete, abortive, or entirely arrested. This can easily be illustrated in the new-born child. There is no coordinate movement except that involved in the act of nursing, which is a combination of motor impulses of the same type as the scratch reflex described by Sherrington. If the child is placed in the position to nurse, and just as it takes hold of the nipple, the bottom of either foot is stimulated, the movement of nursing is arrested. Again, if the child is nursing, and the stimulus is applied, the movement of sucking is arrested, to be renewed as soon as the stimulus ceases; provided the application of the stimulus is intermittent. If the stimulation is continuous, the child lets go the nipple and begins to cry. With each inspiration the voluntary muscles are relaxed; while with expiration they are contracted. At the same time the force of the heart beat is increased and the peripheral vessels are dilated. Here are a host of apparently unrelated reflexes brought into action, most of them antagonistic, but following each other in a regular sequence. The different compound reflexes may be tested in turn, but if any two antagonistic reflexes are stimulated at the same time, inhibition always results, to be followed by the gradual domination of flexion.

These observations have taught me that the new-born child is as good a subject in which to study the reflexes as is the decerebrate dog, and for the same reason, that is, functionally it is decerebrate. We may make accurate observations under experimental conditions, using the clinical opportunities that come to us in our everyday work, without the aid of elaborate laboratory apparatus; and I wish to impress on you that our institutions for the insane are unworked mines of neurologic wealth.

The development of coordinated movement in the infant follows the combination of antagonistic simple reflexes, so that they shall be supplementary to each other; but at any time these compound reflexes may be disintegrated by overstimulation of the flexion or extension element; or the movement may be entirely inhibited by the stimulation of an indifferent area having another form of functional activity. As the functional capacity of the cerebrum develops, these inhibitions become more frequent and active; until the response to the afferent stimuli is completely coordinated, and there is so-called voluntary motion. Thereafter, combinations of primarily antagonistic reflexes become more and more numerous, as the conditions in the environment become more uniform, and familiar by repetition; so that highly complex reflexes exist, apparently free from cerebral inhibition. But should any given combination of conditions in the environment change, so as to vary the intensity and relation of the resulting afferent impulses, the given impulse is first inhibited, and then its elements are recombined to meet the changed conditions. This is illustrated constantly in the futility and confusion that result when an individual is called on suddenly to meet unusual and untoward conditions in the environment, or when, for reason, he has lost the capacity to relate and coordinate the afferent impulses coming from accustomed environment.

Unfortunately, the motor reactions and reflexes have not been studied in the same detail in the human organism that they have been in the lower orders of animal life; so that there is a hiatus in our knowledge of the order in which cerebral inhibition has developed. Besides, we are prone to forget that there is no standstill in the functional capacity of the cerebrum. New modes of activity are constantly being integrated; combinations and recombinations; adaptations and readaptations are constantly taking place; increasing in complexity, or disintegrating into simpler forms. It is important, too, to remember when considering the development of the cerebrospinal nervous system, that there is a difference between anatomic arrangement and functional capacity. While anatomically there has been comparative uniformity, and in histology likeness, functionally there has been constant variation; often reversion: and sometimes almost complete disintegration of most complex reflexes. These variations are well illustrated in the modifications in functional capacity of the different special senses, by the artificial conditions which have grown into the human environment; so that the functional capacity of all the special senses has become more uniform, and instead of vision, smell, or hearing being conspicuously dominant, they share comparatively equally with the other senses the task of adaptation to the conditions in the environment; and yet there is neither anatomic nor morphologic change in the elements of their cerebral centers. So, too, it is possible that without anatomic difference or morphologic unlikeness in the elements of the brain cortex, there may be relative incapacity in the development of functional potentiality in the cortical areas of the highest forms of cerebral functioning; resulting in temporary or permanent failure under stress of the capacity for coordination and direction. Therefore, there may be disintegration of function and disassociation of the elements of complex motor activities, without lesion or morphologic change in the histologic elements of the cortex of the brain.

Sherrington[2] has shown in detail how the reflexes are built up, but he first eliminates the inhibitory function of the cerebrum, and he does not show how these reflexes are combined, controlled and the efferent impulses directed in so-called conscious effort by the cerebrum; although, in the last chapter of his book, he sums up the relation of the cerebrum to motor activity from the standpoint of our present knowledge.

From observations of new-born children I have learned that, in order to construct a compound reflex, it is necessary that all the afferent impulses should be received in their proper order and related in their habitual sequence. When this order and sequence are interrupted or incomplete, the efferent impulses are inhibited, and then the reflex is modified. From observations among the insane, it has been found that the progress of degeneration in dementia brings about a similar state; so that as the capacity for relation, coordination and direction are lost, inhibition becomes dominant. Then, in the presence of physical deterioration, or some cause of vasomotor disturbance, there are various degrees of inhibition, ranging from incoordination to palsy, usually in the functions of prehension and locomotion and next in the acts of articulation and deglutition.

The following case histories illustrate this contention:

Patient.—L. D., woman, born in Minnesota, 27 years old, a farmer's daughter.

Family History.—The paternal grandmother is still living; the other grandparents died in old age after healthy lives. The parents are still living and in good health. There are six children in the family, and all of them in good health except the patient. The parents were in good physical condition at the time of the conception of this child; she was healthy as a baby and during her childhood she began to menstruate at 14 years of age; the function was established without disturbance, and she was healthy until her nineteenth year, when she had "spasms" for two days, and since that time is said to have had "epilepsy."

Personal History.—Ten months before coming to the hospital it was noticed that when alone she would talk incoherently to herself. After this time she became suspicious, and when interfered with, violent; also noisy and profane. She believed that her family wanted to harm her, developed furtive suspicion, was sullen and obstinate, would attack any one who came near her, and destroyed her clothing and the furniture.

Examination.—She was admitted April 8, 1907. She was poorly nourished, the skin was dry and harsh, the flesh flabby. She weighed 103 pounds, although tall and large boned. The chest was depressed above the clavicles; the circumference 75 cm., expansion 4 cm. Resonance was impaired over the apices, sibilant râles were present in the interscapular region, and moist râles in the subscapular region. The heart was slightly enlarged, the sounds were clear and distinct; the aortic second sound was accentuated. There was no atheroma apparent. The abdomen was flattened, its walls thin. The tongue was heavily coated, the appetite poor, digestion impaired, and she was constipated. The labia minora were hypertrophied, the hymen lacerated, the uterus small and anteverted. Apparently the ovaries and tubes were healthy.

Urine: The urine indicated chronic renal congestion, and functional inadequacy of the kidneys. Indican was much increased, there was a small amount of albumin, deutero-albumose, acetone and diacetic acid, as well as numerous uric acid crystals.

Muscles and Reflexes: The muscles of the face were under poor control, but the movements of the eyes were coordinate, and the tongue was protruded readily in the median line. The pupils were 5 mm. in diameter, equal, and reacted to light and accommodation. The hand grasp was 48 in the right and 38 in the left, and there was no paresis. There was slight tremor about the mouth, intention tremor in the tongue, and slight rest tremor in the arms. The superficial reflexes were present; the knee jerks were exaggerated, and increased on reinforcement. There was no ankle clonus. Coordination was poor in both arms and legs. On account of the dulness and suspicion, common sensation and the special senses could not be tested.

Mental State and Motor Disturbance: She was untidy and indifferent; stooped, walked unsteadily, hopped, and dragged her feet. The expression was vacant, she did not respond to questions except by yes or no, but whispered incoherently to herself. She was alternately exalted and depressed; restless, irritable, and there was auditory and visual hallucination. When asked to do a thing she would twist herself about spasmodically, say "I can't," make a great many futile efforts and purposeless movements, and finally accomplish the coordinated movement. When alone she would grimace and gesticulate, and her body and lower limbs twitched. In trying to sit down, she would look about her, grin, grasp the chair, put her left knee on it, and then drop down with the left leg doubled under. She had a shuffling, unsteady gait, and was apparently in constant fear of falling. When food was given her she would make no effort to feed herself until after some of the food had been put in her mouth, when she would go ahead and eat a hearty meal. She could not take off or put on her clothing alone; while in getting out of or into bed, she would make a number of ineffectual efforts, with gesture and contortion; finally rolling and throwing herself on to her feet, or into the bed.

Course of Disease.—During the first month she was in the hospital she was in worse condition than when admitted; became disturbed, restless, noisy, and at times filthy. The incoordination was more extreme; so that efforts toward prehension and locomotion were almost entirely futile. In her efforts to go from place to place, she would twist her shoulders, throw the elbows out from the body, make a few uncertain dragging movements with the feet, lean forward, then take several rapid steps backward; and finally with a propulsive impulse she would start forward *on a run; finally* settling into a walk in the direction she wanted to go. When asked to shake hands, she would slowly extend the arm in an uncertain movement, suddenly withdraw it, go through a number of gyrating movements of the body and arms, then after several futile efforts propulsively extend the arm and shake hands. The nurses frequently helped her to walk by moving her feet forward alternately for several steps, until she could coordinate the movement and walk without assistance. She gradually improved physically, but remained *suspicious, irritable, obstinate*; kept by herself, was usually sullen, and sometimes noisy, profane and disposed to be violent. Later the motor incoordination grew less, she could move about without much difficulty, became brighter and more cheerful, and began to occupy herself in various ways.

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[2] The Integrative Action of the Nervous System.

In December she weighed 140 pounds, was in good physical condition and much improved mentally. Her parents took her home and when last heard from there was no incoordination, and she was engaged in the usual activities of a farm household.

Patient.—J. M., man, aged 21, born in Minnesota.

Family History.—The father, a healthy, vigorous man, was, when a young man, a lumberman. The mother is, and always has been, neurotic. No definite information could be obtained concerning the grandparents.

Personal History.—The patient was born at full time, the mother was able to nurse him, and he had no serious illness during childhood. He was not so bright as his brothers and sisters, was obstinate, and not amenable to discipline. Punishment made him sullen, and neither stimulated nor deterred him. While apparently fond of his family, he never expressed any feeling for them, and did not actively share the joys and griefs of his brothers and sisters. He did not associate with other children, but stayed either with his parents about the house, or in the company of other adults. He was very selfish, inconsiderate of his parents, and even as a child responded to bribes only. Punishment did not affect him. From the time of the period of second dentition he would, when alone, stand staring into space, apparently oblivious of his surroundings. Often he would stop in the middle of the street and look about him apparently at nothing for half an hour at a time; and he would stop outside of the house, regardless of the weather, for an indefinite period, unless he was called in. He was always in good physical condition, ate and slept well, and grew as rapidly as the other children. He spoke rapidly and explosively, did not stutter, but would leave out words, or repeat himself frequently. He did not take much exercise, but read a great deal, apparently only to occupy his time. He was naturally furtive and deceitful; disinclined to work; but *ingenious in hiding his derelictions. He had no sense of* responsibility or moral obligation, and although he learned easily, he would not go to school regularly, and did no work after he was 20 years old, but hung about dance halls and cheap theaters; he came in late at night and was never willing to tell even his brother of his movements. So far as could be found out he neither drank nor frequented houses of prostitution, but in the spring of 1905, when he was 21 years old, he wanted to marry a street walker.

Development of Incoordination.—In the autumn of 1905 his peculiarities became more marked, he became ugly and disposed to be violent toward the members of the family. In February, 1906, he came home late one night in a cab, said that he saw a man drop dead, and was so frightened that he was afraid to come home alone. After getting home he was afraid to stay alone. This fear persisted, he talked more rapidly, repeated oftener, and was sometimes incoherent. At this time it was also noted that it took him a long time to eat his food; also to dress and undress. He walked very slowly, was careful of his steps, and examined anxiously the space in front of him before taking a step. He would not go anywhere out of the house unless accompanied by his parents. He was placed in a hospital, soon became confused; later stupid; passed his urine and feces in bed; required constant personal care, and seldom spoke. He took little food, became emaciated, and either could not or would not use his arms or legs in prehension or locomotion. His parents, thinking he was going to die, took him home; but soon after getting him home he began to improve physically, looked after his own secretions, and was apparently not so timid, although he was very deliberate in his movements. It was soon after this time that I saw the young man in consultation.

Examination.—The patient presented the appearance and manner of a boy of 14 years of age, and there was practically no hair on his face. He was awkward, self-conscious; with extreme facial mobility, general restlessness and emotional exaggeration. In attempting to shake hands he struggled vainly for some time to bend the elbow and raise the hand; moving the other arm and the body, but he was unable to raise the arm or extend the hand. Finally, after a number of futile efforts, he suddenly put out his hand and shook hands. He also had considerable difficulty in letting go the grasp of the hand; going through a number of gyrations with the arms and contortions of the body before he could let go. He spoke rapidly, repeated almost every word, was apparently in con*stant motion; yet never succeeded in doing anything until after* continued effort. When he undertook to pick up a knife, spoon or fork, the same series of unavailing efforts were made; and after the object was taken into his hand, another series of efforts was made before he could begin to make use of the object. After he was started, however, he could continue any combination of movements indefinitely, but he had the same difficulty in stopping that he had in starting. It took him sometimes fifteen minutes to start to move, but having started, *he could move in a straight line indefinitely, but at a turn, or* in stepping from one level to another, the same struggle took place. If asked to pick up a pencil and write, he would make a whole series of movements before he succeeded in grasping the pen. The pen in his fingers, there followed a spasm of the muscles of the hand, lasting about half a minute. Then he would start to write, getting along without difficulty, and writing fluently, either spontaneously or from dictation. It was as much of a task, however, to let go of the pencil as it *had been to pick it up.* In walking, if he saw some one coming toward him, or if, in crossing the street he saw a team coming toward him, he became rigid and could not move again until after considerable effort. Every thing he undertook was a repetition of the series of inhibitions and incoordinate movements here described. Nothing wrong could be discovered in the motor or sensory functions of the nervous system, and he was in good physical health, had a good appetite and slept well, and yet every voluntary effort was inhibited by an antagonistic reflex.

Treatment.—The treatment, aside from the employment of a tactful and strong-willed nurse, was the systematic retraining in coordinate movement of all of the muscle groups. In the course of three months the young man was much better, and he has slowly improved since that time, so that he can now go anywhere alone and care for himself. The mental enfeeblement is, of course, permanent; he is still very emotional, speaks very rapidly, and has practically no self-control.

Patient.—A. T. L., woman, born in England; single, aged 17 at the time of admission. The father, a farmer, is living; the mother died in childbirth. No other history of the family could be obtained.

History.—The patient, *one of twins*, was born after a difficult labor. The other child was born dead, and the mother died soon afterward. When nine months old the patint had convulsions and "severe fever." Following the convulsions she had a left hemiplegia, from which she gradually recovered. She began to menstruate at 14 years of age, and soon afterward developed epilepsy, the convulsions being nocturnal at first. She became dull, irritable, obstinate, and at times violent.

Examination.—When admitted to the hospital February, 1907, she was disturbed, noisy and violent. She was well-nourished, the flesh firm and vitality good. There was no evidence of disease in the chest or abdomen. There was some indigestion and she was constipated. The urine indicated renal inadequacy and there was some albumin and casts.

Muscles and Reflexes: The face was asymmetrical. The tongue was protruded readily, but deviated to the right. She stuttered. The pupils were dilated and equal. There was some twitching of the eyelids, slight intention tremor in the limbs; the knee jerk was exaggerated and increased on reinforcement; coordination was fair and there was no clonus. She was too dull and irritable to make subjective tests.

Course of Disease.—During the time of her residence in the hospital her history has been the usual one of a demented epileptic. Explosive outbreaks followed by periods of dulness, and occasional intervals of comparative brightness. In the spring of 1906 it was noticed that she was very awkward and was gradually losing the power of motion in the lower limbs, so that she stumbled and fell frequently. For some time previously she had been having an unusual number of convulsions, was irritable, obstinate, and frequently explosively violent. The weakness in the lower limbs increased, the paresis being apparently more marked in the extensors, until in June there was complete paraplegia.

Description of Paralysis: The paralysis was spastic and most marked on the left side. Each group of muscles, however, responded to stimulation and there was no reaction of degeneration. The paralysis slowly disappeared, but the incoordination remained for about a year. At present she is awkward and has a rolling gait. During the time she was in bed numerous tests were made of the coordination in the arms, with the result that movements of prehension were at first difficult. and at the time the paraplegia was most complete, impossible. Even now considerable effort is necessary for her to take anything in her hands. When she is dull the incoordination is still marked in both upper and lower extremities, but during her brighter intervals, she has very little difficulty in either prehension or locomotion. However, if she becomes disturbed for any reason, she begins to stagger, and if not supported will fall to the floor.

These three cases were chosen because they formed a sequence, showing the varying degrees in the development of inhibition, according to the extent of the primary defect in the nervous organization, and the advance of the process of dementia. I have seen these inhibitions in the terminal stages of general paresis, and they, for obvious reasons, are frequently present in hysteria. Indeed, in hysteria, the palsies and contractures are graphic illustrations of disintegrated compound reflexes, primarily due to inhibition.

There are, however, in every-day experience, frequent examples of inhibition, resulting from fear or other emotion; and it is to be noted that these examples are conspicuous just in proportion to the instability of the individual in whom they are manifested.

The pathology of this condition is obscure, and it has no morbid histology, so far as the brain cell is concerned. There is no means by which we may become familiar with the process involved, because even in those cases in which the incoordination or palsy persists the secondary degenerative changes obscure any primary alteration that might have been present. However, the evidence furnished by current knowledge of the physiology of the brain shows fairly conclusively that the function of inhibition is most highly developed in the cortex of the middle portion of the frontal lobes anterior to the precentral fissure. That is, the areas connected with the lower, middle, and upper portions of the anterior central convolution. It would seem that these areas are grouped together functionally with relation to motion, just as the inferior and superior parietal lobules are grouped with the subdivisions of the ascending parietal convolution with relation to sensation. As I have stated in another connection,[4] atrophy in the cortex, in the progress of degeneration, always begins in the convolutions of the operculum, and is usually most marked over the posterior portion of the second and third frontal convolutions on the left side, in right-handed persons. Again, in the defective, this is the part of the brain that is least well developed. I have found, also, that it is in this area, in the blood vessels distributed to the cortex, that atheroma, with white streaks along the vessels, appears first. Besides, the veins in the frontal area are always the most tortuous and distended, and their entrance into the sinus most narrowed by the piadural adhesions along the median fissure; so that there is not only interference with nutrition and elimination, but a mechanical cause for atrophy in the accumulation of fluid in the arachnoid space.

We have recently had the opportunity to see these conditions in two cases of cranial vivisection, in one case while searching for the assumed cause of mental degeneration in an old cranial injury. Although the site of the injury was over the left superior parietal lobule, the atrophy was about the insula. The arachnoid space over the frontal lobes was distended with fluid, and there were white streaks along the vessels. The brain did not pulsate. There was no evidence of change at the site of the injury, except some thickening of the outer table of the skull. This patient, a man, was confused, irritable, often denuded himself, and wanted to "get away from here." That is, there was reversion to the animal tendency to seclusion.

The other case was one of epileptiform convulsions, with confusion and explosive outbreaks of violence, procursive, and the sequence to visual and auditory hallucination. The convulsions followed a severe attack of typhoid fever, during which delirium had been severe, and the convulsions had continued for twelve years. They had been infrequent at first; then occurred in groups at irregular intervals. These intervals became shorter, and about a year before coming to the hospital the patient was noted, when alone, to laugh and talk incoherently to himself. About three months before he was admitted the convulsions became rather frequent and the mental disturbance active. The convulsions, although usually general, began in the muscles of the right side of the face. After the convulsion he was very much confused for several days. During one of these periods of confusion, in a procursive explosion, he jumped out of the window, ran some distance from home, and hid in an old barn. It was after this escapade that he was committed to the hospital.

When the cranial flap was turned down on the left side, an area of thickening in the dura over the operculum was found, and underneath a retention cyst in the pia. The brain bulged into the opening and the convolutions were flattened. The arachnoid space over the frontal lobes was distended with fluid, there were white streaks along the vessels, and the veins were distended and tortuous. The brain did not pulsate, until after pushing a trocar into the lateral ventricle and draining out considerable fluid. In this case there was not much atrophy, but the convolutions were flattened by the intraventricular pressure—the periods of confusion corresponding with the accumulation of fluid resulting from the hypostasis following the convulsion.

In neither of these cases was there any incoordination, and both patients were men in middle life. They are referred to here to show the condition of the brain in acute mental disturbance in the course of chronic degenerative change, and because they suggest the probability that in all cases of confusion and stupor there is pressure from an increased amount of fluid in the lateral ventricles; while in the cases that are disturbed the fluid is probably over the convexity.

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[4] The Motor Degenerative Sequence in Dementia, THE JOURNAL A. M. A., Oct. 27, 1906.

In my experience inhibition and incoordination occur only in those cases in which the degeneration is primary and begins during adolescence, that is, when degeneration begins before development is complete. In these individuals the higher functions of the brain are necessarily imperfectly developed, with the consequence that coordination and direction are not completely organized. Therefore, anything that lowers vitality may put these functions in abeyance, and leave inhibition dominant, just as in the normal individual unusual and untoward conditions may operate to produce the same result in the undeveloped and inexperienced.

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Until the appearance of the paper of Peters[2] but little consideration had been given this interesting and important subject and it is only within the past decade that frequent references to it are to be found in literature. Few of these are by American authors, and these mostly within the past three or four years. Historically, it is of interest to note that in the first edition of the Graefe-Sämisch Handbuch, Schirmer states that until Critchett published his cases, infants at the breast were considered exempt from dacryocystitis (Kipp). Kipp[3] says his statistics show that 10 per cent. of all cases of dacryocystitis, among which were several cases of phlegmon of the sac, occurred in children, under 1 year of age. But it was not until the appearance of the paper of Peters that the subject was broadly considered, and a causal relationship established between the clinical phenomena and the developmental peculiarities of the lachrymal passages. The investigations of Rochon-Duvigneaud,[4] Vlacovitch,[5] Stanculeanu,[6] and others, established from anatomic research the existence of structural abnormalities as well as delayed development as causes.

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The possible causes of the condition manifesting itself as a discharge from the puncti, a distention of the sac or an abscess in the new-born are sixfold: (1) Delayed separation and necrosis of the epithelial cells forming the cord from which the canal is formed. (2) Retention of the separated cells through imperforation of the septum between the lachrymonasal duct and the nasal chamber. (3) Through obstruction due to annular folds of the mucous membrane which may form at any point within the duct, Huschke's and Hasner's valves. (4) Faulty development of the cartilages (D. Gunn[7]). (5) Partial occlusion by pressure of inferior turbinate. (6) Stenosis from pressure exerted on the bones of the face during instrumental labor. (The last group is a suppositional one, suggested by Peters' observation that in one of his cases there were marks of the forceps over the nose on the side corresponding to the discharge from the punctum.)

The majority of the cases doubtless fall under the second group, as here the cause is one for which the anatomic possibility exists in every fetus. It would seem probable that this affection might be found proportionately more frequently in the prematurely born as the septum is usually present until shortly before birth, but Stanculeanu[6] found the condition of so-called congenital dacryocystitis present only four times in twenty embryos at the seventh month, the period previous to which, according to this writer, the lachrymonasal duct is never patulous. He believes that this observation overthrows the classical theory as to the pathogenesis of this condition. He was, however, unable to demonstrate an infection to explain the cases that he did observe; but Rochon-Duvigneaud[4] holds that to produce this condition there must be an exaggerated proliferation of the epithelium of the canal. Morax believes that infection first takes place after the birth of the child, and therefore considers the term "congenital dacryocystitis" incorrect.

COMPLICATIONS.

A distention forming a diverticulum at the lower part of the sac is an associated condition, the presence of which, often suspected from the clinical phenomena (Vossius,[8] D. Gunn,[7] Addario) has now been demonstrated in section by more than one investigator (Rochon-Duvigneaud,[4] Vossius[8]). This abnormality may be due to a faulty development, or as is more often the case, by distention of the duct by retained epithelial débris and mucous secretion. The latter, as pointed out by Bochdalek, forming a consistent mass, may, in itself, obstruct the lumen of the canal and hinder egress to the nose. Mayou[9] has shown that throughout development the lower end of the lachrymal duct is extremely small and remains so at birth, being partially occluded by pressure of the inferior turbinate bone. That a catarrhal or even purulent conjunctivitis may be excited by the contents of the lachrymal sac was demonstrated by Ollendorff's[10] cases and by the cases of Gunn,[7] where the inflammation of this membrane at once subsided when the duct was made patulous.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

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If proper treatment is withheld, under the influence of winking, the conjunctival secretions penetrate and infect the gelatinous contents of the sac and excite an inflammation which may continue as a subacute condition or kindle an acute process.

The affection is very rarely bilateral.

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As might well be expected from the circumstances, a great variety of micro-organisms have been found in the secretion. Merconti[13] saw a bacillus resembling the coli communis. The gonococcus of Neisser was found by Antonelli[14] and Mayou,[9] the pneumococcus by Hirsch[15] and the *Staphylococcus pyogenes aureus* by Selenkowsky,[12] and the Morax-Axenfeld bacillus by Mayou. Ball[16] states that the xerosis bacillus, the pneumobacillus and the *Bacillus fetidus ozena* have all been found.

PROGNOSIS.

This is undoubtedly good in a great majority of instances, as it has been shown that in those cases where there is either an incompletion of the cleaning up process or an imperforation of the thin diaphragm at the inferior meatus, Nature, in time, corrects the trouble; but at any stage in the process, infection of the contents of the canal may determine an inflammatory process, leading to abscess formation, if immediate drainage into the nose is not secured. An injury to the cornea, or a marasmic ulceration of the cornea, might endanger the safety of the eye, as evidenced by Selenkowsky's case of phlegmon of the tear sac in the new-born in which the *S. pyogenes aureus,* of a highly virulent type, was present in large numbers. Purulent conjunctivitis may be set up by infection.

Considering that one careful observer has found that 25 per cent. of his cases of dacryocystitis occurred before the tenth year, it is likely that chronic dacryocystitis in the child may be looked on as a possible sequel to the congenital obstruction.

DIAGNOSIS.

To those familiar with the occurrence of the affection, its diagnosis presents no difficulties; but to the general practitioner, alert to possible occurrence of gonococcal conjunctivitis, the presence of a white secretion in the eye, just after birth, is a disturbing symptom. The absence of inflammatory phenomena, with puffiness of the lids, the benignity of the course, the usual monolateral development, and the scantiness of the discharge, should ease his mind, and if it does not, a microscopic examination of the discharge would.

Terson[17] has seen in a prematurely born, but well developed female child, a hemispherical fluctuating tumor, of about the size of a hazelnut, overlying the right lachrymal sac. It was absolutely irreducible and unattached to the skin. The nature of the cyst was problematic. According to Terson, the possibility of such a tumor being a meningocele, an encephalocele, or of the nature of a true prelachrymal serous or fatty cyst, must be borne in mind. The elder Terson removed from an adult the anterior portion of a prelachrymal cyst which was entirely independent of the healthy lachrymal passages, yet proved, histologically, to be made up of tissue normal to the lachrymal sac.

According to Terson the differential diagnosis between prelachrymal cysts of various kinds, and so-called congenital dacryocystitis is extremely difficult. In certain cases it must rest entirely on the irreducibility of the tumor.

TREATMENT.

Varied opinions are held concerning the proper management of these cases. Some surgeons (Weeks,[18] Jackson,[1] Peters,[2] Panas, Terson,[17] Valude[19] and others), believing that as the condition is one which, in the vast majority of instances, will correct itself in time, presumably without exciting any secondary disturbance, advise a simple collyrium, the use of solutions of silver, of pressure, and massage, until Nature has asserted herself, or for several months before employing operative procedures, Ollendorff,[10] Koster,[20] Cutler,[21] Rochon-Duvigneaud,[4] Parsons,[22] Bochdalek, Mayou and others[23] employ probing or syringing. Peters has, at times, used probes. Parsons, who holds a decided opinion as to the injurious effect of probing in the adult, apparently makes an exception in *treating this affection in the* young, as he states that a single probing usually brings degenerative change, and because they suggest the probability that in all cases of confusion and stupor there is pressure from an increased amount of fluid in the lateral ventricles; while in the cases that are disturbed the fluid is probably over the convexity.

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[9] Roy. London Ophth. Hosp. Rep., xvii, 246, January, 1908.
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[12] Vestnik oftalmol., xix, No. 1.
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[18] THE JOURNAL A. M. A., Dec. 10, 1904, p. 1760.
[19] Bull. Soc. de pédiat. de Paris, 1899, i.
[20] Graefe's Arch., Nov. 5, 1905.
[21] Arch. of Ophth., May, 1903.
[22] Brit. Med. Jour., Feb. 23, 1907.
[23] Fejer: Arch. f. Augenheilk., February, 1907; Rabinovich: Russk. Vrach, St. Petersb., 1902, i, 1206-1208; Kamneff: Vrach Gaz., St. Petersb., 1902, ix, 29; Levy: Paris Thesis; Jemsolinski: Vestnik oftalmol., 1903, xx; Pechin: Arch. d'ophth., 1905.

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about a cure. Mayon[9] believes that aspiration fails to clear the duct when there is congenital narrowing, and says that this view is further borne out by the clinical fact that, if one of these patients "is seen before an abscess forms, one careful passage of a probe is generally sufficient to effect a cure." Jackson, in quoting Weeks'[18] advice simply to cleanse the conjunctival sac and protect the parts until Nature has had a fair opportunity to establish a passage, and if this has not occurred at the end of two months to slit the canaliculus slightly and pass a small Bowman probe, states that he would not limit to two months, or even six months, the period in which it is proper to try milder measures, provided the symptoms are controlled by such treatment.

A successful method, not recommended by any writer, was witnessed by Copez. According to Van Duyse,[11] this author saw a lachrymal tumor rapidly cured by the nurse applying mouth suction to the nose of the infant.

As the possible results of delayed opening of the tear passages may be the occurrence of infection, with its usual sequelæ and dangers, it does not seem to the author a wise procedure to wait on Nature an indefinite period to eliminate this menace; especially as the therapeutic measures advised in the palliative treatment include the continued use of organic salts of silver at home, thus adding to the former dangers the one of argyrosis, the use of massage, a measure to which Ollendorff[10] ascribes the blame for the occurrence of necrosis in one of his cases; also, seemingly, disturbance of the nutrition of the infant (Cutler[21]).

No doubt the danger of allowing Nature to effect the cure would be slight if the patient could be kept under constant supervision, but this is rarely possible, especially when the treatment may be *giving no tangible* results.

As it seems to be the practice of some of these clinicians to use probes to overcome the obstruction when the expectant treatment has failed, it would appear to me that some such procedure is indicated at once, when simple pressure over the sac fails to give permanent relief. Maternal pride shrinks from displaying a pussy-eyed infant to the critical public, and the author has received from no one more grateful thanks than he did from a mother whose infant had been treated expectantly for weeks, and was at once cured by probing.

The result secured by probing in the first case of my series was so brilliant that I pursued the same course in my subsequent cases, and, with one exception, with the same success, namely, disappearance of the trouble after a single probing. In the exceptional instance it was necessary to repeat the probing three times.

Doubtless, for those unaccustomed to passing probes, it would be wiser to counsel measures requiring less skill. For this reason, syringing has been recommended by some, and while it is possible in some cases to force a passage in this way, it does not seem to me to be less difficult than probing, unless the baby be etherized, a measure which I have found unnecessary in passing probes.

Probing here is done under different circumstances from those in lachrymal obstruction in the adult. As a rule, no resistance is met with, and the probe readily follows the natural passage, which, according to Mayon,[9] is inclined much more backward than it is in the adult, a probe making an angle of about 45 degrees with the forehead when passed through the duct.

DISCUSSION.

Dr. Edward Jackson, Denver: The classification given under the heading of etiology covers the ground thoroughly. But if we consider the lachrymal passages in general, including the adjoining bony and cartilaginous structures as well as the soft parts, all of the causes enumerated, except the conjectural one of pressure of the face during instrumental labor, would be included in faults of development of the passages. Generally the fault is merely a delay in reaching normal development. Failure to develop a lumen, converting the rod of epithelium, which generally marks the site of the lachrymal passages, into a tube, might occur at any point. Most frequently it occurs at the nasal end of the passage; but probably in an important proportion of cases it is one of the so-called valves that fails to become pervious. Some such structures are generally present at some stage of development, but mostly they become pervious before the lachrymonasal septum.

The condition is most likely to be confused with conjunctivitis in the new-born; not with gonococcus conjunctivitis, but with certain subacute or chronic forms that are not rare. In these cases of conjunctivitis the discharge is whitish or gray, the conjunctival sac is likely to present some accumulation of tears, and the persistence of the condition is quite suggestive of lachrymal disease. One is scarcely justified in making the diagnosis of lachrymal obstruction in the new-born unless there is actual evidence of accumulation in the sac and regurgitation of the matter on pressure.

Knowing, as we do, the strong tendency to continued development of the passages and the probability of ultimately securing in these cases completely normal lachrymal apparatus in the end, without operative interference, I watch for complications, and so long as they do not arise avoid any operative interference other than frequent gentle pressure over the lachrymal sac. I have not seen any case of staining from silver salts in infants; but the use of silver preparations is not a necessary part in the expectant treatment of infantile lachrymal obstruction. Solutions of boric acid or sodium chlorid used to cleanse the eye at frequent intervals probably serve the purpose equally well. It is but right that the parents of an infant presenting this condition should be fully *informed of the nature and probabilities of the case*, and allowed to choose whether or not any operative measure should be resorted to. At the same time they should be *informed that the condition could probably be relieved by a* simple probing, and that complications might arise which would render operation urgent. When mechanical interference *is to be resorted to* I prefer the passage of a probe of moderate size through the temporarily dilated punctum. This is not wholly without risk even in skilful hands, but the risk *from attempting to force a* passage with fluid *from a* syringe is at least equally great. Syringing has been looked on as quite safe and conservative, but the permanent staining of the skin by argyrol and the orbital cellulitis with optic nerve atrophy, which have been reported after syringing the lachrymal passages are serious possibilities. The risk of mechanical injury at the time of *treatment* seems quite as great with the syringe as with the lachrymal probe.

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DR. HIRAM WOODS, Baltimore: I recall four cases that I have followed very closely. One got well without any treatment whatever. It was simply treated on the expectant plan, expressing the secretion and cleansing, and in two months the whole thing disappeared. The other cases were treated by probing under anesthesia. In two cases one single probing effected the cure. In one of the cases a difficulty arose in getting a probe down into the nose. The small No. 2 Bowman passed a short distance, then stopped, and it was impossible, without exerting more pressure than I cared to use, to introduce it further. It occurred to me that the difficulty might be a catarrhal swelling of the mucous membrane. After two weeks of waiting a third attempt took the probe directly into the nasal cavity without effort and the case has remained well now for six months. I think that it is extremely important to realize in the introduction of probes into the infant lachrymal duct that when mucous secretion has persisted there is possibility of a good deal of swelling in the lower end of the duct and rough manipulation may do a good deal of harm.

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THE CORRELATION OF CLINICIAN, PATHOLOGIST AND LAYMAN.*

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Hygiene, although strictly founded on scientific medical data, nevertheless, so intimately is associated with many intricate sociologic problems that we recognize it as a science distinct and apart from medicine in its more restricted significance.

I wish to center your thought more particularly on clinical medicine or that intimate association between physician and patient in the diagnosis and treatment of disease, as well as to point out the inestimable service rendered both laity and the profession by the pathologist, the clinician's inseparable companion.

Virchow recognized the clinician as the close and confidential agent of the pathologist, as it is he who garners the data from life which the latter is to combine with those of his studies as he forges the chain of our understanding of morbid phenomena. The clinician must guard the truth and accuracy of his findings as carefully as the pathologist does the facts elicited by his work, so that when these combined data are received in the final summing up of the evidence the conclusions to be drawn therefrom shall rest on trustworthy premises.

The one can not be regarded as the superior of the other, for both reciprocally are dependent as they struggle in their respective spheres each to search out and collect the evidence which united deciphers Nature's hieroglyphics.

The clinician is often confronted with an array of symptoms as occult and intricate as the solution of a Chinese puzzle. It becomes his duty to separate the primary from the secondary symptoms, carefully to place each in its proper perspective, and therefrom logically to deduce a true conception of the actual underlying pathologic processes involved, for which he is to advise rational means that are to remove the cause and hence the effect. A comprehensive understanding of the etiology of disease, a vast bedside experience, in conjunction with a thorough knowledge of the fundamental truths of pathology, compose the tripod on which he must stand before attempting to solve the mystery. Even then the task is not always a simple one.

The clinician who is privileged to have his bedside conclusions reviewed by the pathologist is indeed fortunate, for thereby his errors become rectified, and after repeated humiliating disclosures stern necessity compels the cultivation of that spirit of intelligent criticism and conservatism so essential for mastery over the difficult details of medical science.

But he who knows not the blessings of pathologic criticism may go on and on, year after year, committing the same error over and over again because of the lack of this acquaintanceship with the pathologist, who, though occasionally quite discomforting to an oversensitive soul, yet nevertheless remains the clinician's best about a cure. Mayou[9] believes that aspiration fails to clear the duct when there is congenital narrowing, and says that this view is further borne out by the clinical fact that, if one of these patients "is seen before an abscess forms, one careful passage of a probe is generally sufficient to effect a cure." Jackson, in quoting Weeks'[13] advice simply to cleanse the conjunctival sac and protect the parts until Nature has had a fair opportunity to establish a passage, and if this has not occurred at the end of two months to slit the canaliculus slightly and pass a small Bowman probe, states that he would not limit to two months, or even six months, the period in which it is proper to try milder measures, provided the symptoms are controlled by such treatment.

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A successful method, not recommended by any writer, was witnessed by Copez. According to Van Duyse,[11] this author saw a lachrymal tumor rapidly cured by the nurse applying mouth suction to the nose of the infant.

As the possible results of delayed opening of the tear passages may be the occurrence of infection, with its usual sequelæ and dangers, it does not seem to the author a wise procedure to wait on Nature an indefinite period to eliminate this menace; especially as the therapeutic measures advised in the palliative treatment include the continued use of organic salts of silver at home, thus adding to the former dangers the one of argyrosis, the use of massage, a measure to which Ollendorff[10] ascribes the blame for the occurrence of necrosis in one of his cases; also, seemingly, disturbance of the nutrition of the infant (Cutler[21]).

No doubt the danger of allowing Nature to effect the cure would be slight if the patient could be kept under constant supervision, but this is rarely possible, especially when the treatment may be giving no tangible results.

As it seems to be the practice of some of these clinicians to use probes to overcome the obstruction when the expectant treatment has failed, it would appear to me that some such procedure is indicated at once, when simple pressure over the sac fails to give permanent relief. Maternal pride shrinks from displaying a pussy-eyed infant to the critical public, and the author has received from no one more grateful thanks than he did from a mother whose infant had been treated expectantly for weeks, and was at once cured by probing.

The result secured by probing in the first case of my series was so brilliant that I pursued the same course in my subsequent cases, and, with one exception, with the same success, namely, disappearance of the trouble after a single probing. In the exceptional instance it was necessary to repeat the probing three times.

Doubtless, for those unaccustomed to passing probes, it would be wiser to counsel measures requiring less skill. For this reason, syringing has been recommended by some, and while it is possible in some cases to force a passage in this way, it does not seem to me to be less difficult than probing, unless the baby be etherized, a measure which I have found unnecessary in passing probes.

Probing here is done under different circumstances from those in lachrymal obstruction in the adult. As a rule, no resistance is met with, and the probe readily follows the natural passage, which, according to Mayou,[9] is inclined much more backward than it is in the adult, a probe making an angle of about 45 degrees with the forehead when passed through the duct.

DISCUSSION.

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Knowing, as we do, the strong tendency to continued development of the passages and the probability of ultimately securing in these cases completely normal lachrymal apparatus in the end, without operative interference, I watch for complications, and so long as they do not arise avoid any operative interference other than frequent gentle pressure over the lachrymal sac. I have not seen any case of staining from silver salts in infants; but the use of silver preparations is not a necessary part in the expectant treatment of infantile lachrymal obstruction. Solutions of boric acid or sodium chlorid used to cleanse the eye at frequent intervals probably serve the purpose equally well. It is but right that the parents of an infant presenting this condition should be fully informed of the nature and probabilities of the case, and allowed to choose whether or not any operative measure should be resorted to. At the same time they should be informed that the condition could probably be relieved by a simple probing, and that complications might arise which would render operation urgent. When mechanical interference is to be resorted to I prefer the passage of a probe of moderate size through the temporarily dilated punctum. This is not wholly without risk even in skilful hands, but the risk from attempting to force a passage with fluid from a syringe is at least equally great. Syringing has been looked on as quite safe and conservative, but the permanent staining of the skin by argyrol and the orbital cellulitis with optic nerve atrophy, which have been reported after syringing the lachrymal passages are serious possibilities. The risk of mechanical injury at the time of treatment seems quite as great with the syringe as with the lachrymal probe.

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But he who knows not the blessings of pathologic criticism may go on and on, year after year, committing the same error over and over again because of the lack of this acquaintanceship with the pathologist, who, though occasionally quite discomforting to an over-sensitive soul, yet nevertheless remains the clinician's best friend. This correlation of clinical medicine and pathology is wisely acknowledged abroad both by the profession and by the laity and acted on accordingly, whereas here in America as yet it receives but scanty recognition.

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With these introductory remarks, let us turn our attention to the inductive method of diagnosis, cursorily passing in review the two premises which constitute the basis of our bedside conclusions, the anamnesis and the status præsens. I shall try to point out a few striking instances of the erroneous diagnoses which frequently occur because these premises are too carelessly considered or even negligently disregarded.

The value of an accurately gathered anamnesis is of as much importance to the physician as the shrewd sifting of testimony is to the lawyer. Frequently when the clinical symptoms are too few or misleading we must rely quite implicitly on the anamnesis alone.

It is not easy to obtain a history sufficiently trustworthy to form the major premise on which to rest a diagnosis. Too great caution can not be taken to keep our patients in a calm confidential attitude so that the truth may be elicited without omission or modification from pride, fear, forgetfulness or overstimulated imagination.

Our interrogations should be as simple, clear, logical and few as the necessity of the individual case demands, for confusion in our minds inevitably will be reflected in the minds of our patients. Each statement should be accepted only after the most critical examination. The anamnesis, in some cases, of necessity must extend to the collateral branches of the family to trace the influence of the now universally accepted law of atavism.

Unfortunately, history-taking in some of our hospitals is frequently done in a perfunctory, hurried manner. This branch of the work is usually entrusted to the younger members of the house staff, who are as yet new and inexperienced and often show a sad tendency to slight this rather irksome yet, nevertheless, most important task for the more spectacular scenes of the bedside or operating amphitheater.

It would appear judicious for the profession to appoint a commission, composed of both clinicians and pathologists of long practical experience, to formulate some general plan of history-taking, strictly relevant and compendious, yet sufficiently comprehensive to meet the fullest requirements of medical science, so as to be accepted as a standard by all public hospitals.

The resultants of the work in our various hospitals must be combined into ultimate conclusions which shall represent the standards of medical thought and practice. The starting point for such a combination of forces is the standardizing of all hospital anamneses. The goal will be attained after the laity are educated to the point of placing reason above sentiment and permitting science to complete on the dead body the search for truth begun during life. When such ideal conditions prevail here in America then the statistics and generalizations of scientific medical data from our hospitals will be the more accurate and acceptable because of the vastly increased number of cases recorded under the one and same general plan of work.

Passing now to the status præsens or the physical examination of the patient, we find here a field productive of the widest differences among physicians. Hasty observations, with their ill-drawn conclusions, overconfidence, and, in many instances, common ignorance of pathologic anatomy, owing to the comparatively infrequent autopsies in this country, are among the causes for these differences.

No symptom can be too trivial to be neglected, for often an apparently insignificant symptom far distant from the seat of disease gives the sole clew that leads to a correct diagnosis.

It is a most mortifying as well as a serious error to assign as cause of pain in the knee some simple form of synovitis, and fail to detect an incipient coxitis; or to diagnose a sudden severe lancinating pain in the right hypochondriac region as due to cholelithiasis, and possibly operate for gallstones when simply dealing with a reflex pain caused by an attack of angina pectoris; or hastily to diagnose a daily hectic fever with slight amount of purulent sputum as an ordinary bronchitis, when a careful microscopic examination of the sputum would have disclosed the *Ameba coli* that came from a previous attack of dysentery, which, having caused an abscess of the liver with perihepatitis, finally ruptured into and produced an abscess of the lung; or to associate repeated attacks of epigastric pain and vomiting with simple catarrhal gastritis, when an examination of a twenty-four hour specimen of urine would have shown slight traces of albumin, with hyalin and granular casts, and thus enlightened the physician as to the true meaning of the uremic storm signals set up by an advancing interstitial nephritis.

Clinicians can not exercise too great care in establishing the reality of each concrete fact, whether positive or negative, that forms the basis of their bedside conclusions.

If the boundaries of the heart are asserted to be enlarged, or if a bronchial respiration exists at the base of a lung, or if it is positively affirmed that an empyema, for example, does not exist, or that a urinalysis proves to be negative, there must be no uncertainty of such premises, for thereon depends a conclusion that may be the means of saving or losing a human life.

I was recently confronted at the autopsy by a diagnosis proved to be wholly in error, simple because I did not pay sufficient heed to one of my major premises. On the following symptoms I had ventured a diagnosis of cerebellar tumor: Double choked disc, vertigo, cerebral vomiting, ataxia, increased and irregular respiration and pulse, loss of intelligence, difficult hearing and gradual muscular atony; urinalysis asserted to be negative so far as trace of albumin, casts or kidney epithelium. Signs of edema were absent.

The autopsy proved entire absence of any cerebral tumor. There was a slight cerebral edema, an acute hydrocephalus, and a chronic interstitial nephritis. Thus the symptoms of uremia were mistaken for cerebellar tumor because the evidence of a negative urinalysis was accepted from another, while there is no doubt a painstaking and searching examination would have given positive tests for albumin, casts, and possibly kidney epithelium, and thus at once would have revealed the true significance of the symptomatology.

Another source of error in diagnosis lies in the too hasty association of ideas. In a malarious district not every inhabitant with an enlarged spleen and an occasional fever necessarily has malaria; not every painter that comes complaining of cramps and obdurate coprostasis has chronic lead poisoning; not every cook that consults with reference to a hematemesis has a gastric ulcer.

Thus the knowledge gained by the occasional association of certain trades with certain diseases is directive but by no means conclusive, and it is precisely in such cases that our analysis of the symptomatology and etiology of any specific case should be the more exhaustive and critical. These are the cases that demand shrewd judgment and draw on our largest resources if we are to give the proper values and deduce rightful conclusions.

The acquirement of the so-called "diagnostic glance" is solely obtained by a long patient schooling in this inductive method of diagnosis. It teaches us to grasp the important factors in any case and from them the lines of investigation that must be pursued and others that may be omitted for the want of time.

An abscess of the lung suddenly developing in the course of previous indefinite cerebral symptoms, as headache, somnolence, spasms, chills, and an irregular temperature, arouses at once a suspicion of lateral sinus suppurative thrombosis; whereas the same set of symptoms arising in a case of bronchiectasis, with the well-known drumstick fingers, a stinking sputum and hectic flush, should demand a thorough examination of the fundus of the eye for choked disc due to cerebral abscess.

Well-marked symptoms of indigestion, icterus, headache and extreme nervousness in a woman at full term would suggest acute yellow atrophy of the liver; but these same symptoms in a young despondent foreign girl of the working classes, instead of being a case of simple catarrhal jaundice, may be a case of phosphorus poisoning induced for the purpose of committing an abortion.

In emergency cases (particularly when coma is present) this well-developed "diagnostic glance" is of incalculable service. Here the physician must comprehend at a glance and act on premises rapidly if not too securely laid.

The work of the master in this respect is no trick of legerdemain, but the result of his thorough unerring knowledge gained through years of training in the inductive method of diagnosis and the fearless verification of those bedside conclusions at the autopsy. But humiliating, indeed, will be the experience of one attempting this rapid snapshot diagnosing who has not had the prerequisite bedside and postmortem training.

The failure thoroughly and systematically to examine our cases by the inductive method often leads to painful disclosures. The discovery of one lesion is no reason to cease searching for others, but on the contrary should be a stimulus for the discovery of complications or other independent primary lesions.

Among my autopsy experiments one pre-eminently illustrates the results of hasty clinical observations. A drunken man, run over by a wagon, had been brought into the hospital. After a hasty examination no lesion of a serious nature was diagnosed. A pleuropneumonia developed and the case was transferred from the surgical to the medical ward. Death intervened and the autopsy, performed by one of Europe's master pathologists, demonstrated a pleuropneumonia in consequence of twelve fractured ribs, six on either side. There was also found a complete fracture of one of the dorsal and one of the lumbar vertebræ, none of which lesions, according to the record, appear to have been diagnosed in life.

Although this represents an extreme case, nevertheless, reviewing my bedside and postmortem experiences, I can recall many instances occurring with painful frequency where eminent clinicians have been accused of the most egregious mistakes simply because pressed for time, the overcrowded conditions of our hospitals prevented each patient from receiving the requisite care and attention his case demanded for a successful scientific issue.

This brings up a present burning question in regard to our hospital services: Why have we not more physicians on our hospital staffs; and why is not better and more scientific work demanded of each, together with quarterly or semi-annual reports accurately summarizing the work done in each department so that the profession generally may become a beneficiary? Not all are privileged to receive hospital appointments, but those denied such positions of power are none the less entitled to the full knowledge derived therefrom, not through the occasional spasmodic efforts of the few, but through regular complete reports stamped with official authority, detailing with equal impartiality and minuteness both the failures and causes thereof, as well as the commendable successes.

Public hospital appointments should be regarded as positions of trust, and the scientific emoluments resulting from such trusteeship as the common property of the entire profession. Only men especially endowed with natural talents, education and executive ability, actuated by a true love of science rather than personal preferment, should be chosen as the profession's trustees to such positions.

Furthermore, as evidence of their right and fitness for such trusteeship original scientific contributions gleaned from their individual fields of labor should be demanded of them by the general profession as its eminent right and privilege.

The satisfactory accomplishment of such scientific work in our overcrowded charity institutions would require a greater number of workers in proportion to the patients so that closer attention to detail might be given. Such an increase of workers, for harmony's sake and better scientific results, naturally would necessitate the abandonment of our present antiquated hospital methods for newer and more centralizing ones. Each ward would require one chief of staff permanently appointed and empowered to apportion the work and to summarize the results therefrom for use by the general profession, instead of each attending physician assuming this rôle. Not every one is fitted to act as administrative head.

The period of service would need extension, particularly in chronic cases and those of perverted metabolism, for often to-day in our public hospitals unfortunate results follow the bi-monthly and tri-monthly changes of our attending physicians, who often differ in matters of diagnosis and treatment, with the result that the patients suffer.

The rarity of autopsies in our country and the lay prejudices against them emboldens clinicians to formulate unwarranted and speculative conclusions and to be content with diagnoses that would not be tolerated if they knew that a thorough autopsy must be held in case of death. Our hasty, superficial methods sometimes lead to results by which the profession must feel humiliated. For example, take this instance, reported in the *New York Sun*, Aug. 17, 1907:

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CORONER'S JURY SAYS PATIENT DID NOT GET PROPER TREATMENT.

Coroner Harburger and a jury held an inquest yesterday into the death of David Rodesky, the painter who died in the insane asylum on Ward's Island on July 29 from blood poisoning.

Rodesky fell off a surface car and injured his foot. Through neglect the wound became infected. He was sent to Bellevue friend. This correlation of clinical medicine and pathology is wisely acknowledged abroad both by the profession and by the laity and acted on accordingly, whereas here in America as yet it receives but scanty recognition.

With these introductory remarks, let us turn our attention to the inductive method of diagnosis, cursorily passing in review the two premises which constitute the basis of our bedside conclusions, the anamnesis and the status præsens. I shall try to point out a few striking instances of the erroneous diagnoses which frequently occur because these premises are too carelessly considered or even negligently disregarded.

The value of an accurately gathered anamnesis is of as much importance to the physician as the shrewd sifting of testimony is to the lawyer. Frequently when the clinical symptoms are too few or misleading we must rely quite implicitly on the anamnesis alone.

It is not easy to obtain a history sufficiently trustworthy to form the major premise on which to rest a diagnosis. Too great caution can not be taken to keep our patients in a calm confidential attitude so that the truth may be elicited without omission or modification from pride, fear, forgetfulness or overstimulated imagination.

Our interrogations should be as simple, clear, logical and few as the necessity of the individual case demands, for confusion in our minds inevitably will be reflected in the minds of our patients. Each statement should be accepted only after the most critical examination. The anamnesis, in some cases, of necessity must extend to the collateral branches of the family to trace the influence of the now universally accepted law of atavism.

Unfortunately, history-taking in some of our hospitals is frequently done in a perfunctory, hurried manner. This branch of the work is usually entrusted to the younger members of the house staff, who are as yet new and inexperienced and often show a sad tendency to slight this rather irksome yet, nevertheless, most important task for the more spectacular scenes of the bedside or operating amphitheater.

It would appear judicious for the profession to appoint a commission, composed of both clinicians and pathologists of long practical experience, to formulate some general plan of history-taking, strictly relevant and compendious, yet sufficiently comprehensive to meet the fullest requirements of medical science, so as to be accepted as a standard by all public hospitals.

The resultants of the work in our various hospitals must be combined into ultimate conclusions which shall represent the standards of medical thought and practice. The starting point for such a combination of forces is the standardizing of all hospital anamneses. The goal will be attained after the laity are educated to the point of placing reason above sentiment and permitting science to complete on the dead body the search for truth begun during life. When such ideal conditions prevail here in America then the statistics and generalizations of scientific medical data from our hospitals will be the more accurate and acceptable because of the vastly increased number of cases recorded under the one and same general plan of work.

Passing now to the status præsens or the physical examination of the patient, we find here a field productive of the widest differences among physicians. Hasty observations, with their ill-drawn conclusions, overconfidence, and, in many instances, common ignorance of pathologic anatomy, owing to the comparatively infrequent autopsies in this country, are among the causes for these differences.

No symptom can be too trivial to be neglected, for often an apparently insignificant symptom far distant from the seat of disease gives the sole clew that leads to a correct diagnosis.

It is a most mortifying as well as a serious error to assign as cause of pain in the knee some simple form of synovitis, and fail to detect an incipient coxitis; or to diagnose a sudden severe lancinating pain in the right hypochondriac region as due to cholelithiasis, and possibly operate for gallstones when simply dealing with a reflex pain caused by an attack of angina pectoris; or hastily to diagnose a daily hectic fever with slight amount of purulent sputum as an ordinary bronchitis, when a careful microscopic examination of the sputum would have disclosed the *Ameba coli* that came from a previous attack of dysentery, which, having caused an abscess of the liver with perihepatitis, finally ruptured into and produced an abscess of the lung; or to associate repeated attacks of epigastric pain and vomiting with simple catarrhal gastritis, when an examination of a twenty-four hour specimen of urine would have shown slight traces of albumin, with hyalin and granular casts, and thus enlightened the physician as to the true meaning of the uremic storm signals set up by an advancing interstitial nephritis.

Clinicians can not exercise too great care in establishing the reality of each concrete fact, whether positive or negative, that forms the basis of their bedside conclusions.

If the boundaries of the heart are asserted to be enlarged, or if a bronchial respiration exists at the base of a lung, or if it is positively affirmed that an empyema, for example, does not exist, or that a urinalysis proves to be negative, there must be no uncertainty of such premises, for thereon depends a conclusion that may be the means of saving or losing a human life.

I was recently confronted at the autopsy by a diagnosis proved to be wholly in error, simple because I did not pay sufficient heed to one of my major premises. On the following symptoms I had ventured a diagnosis of cerebellar tumor: Double choked disc, vertigo, cerebral vomiting, ataxia, increased and irregular respiration and pulse, loss of intelligence, difficult hearing and gradual muscular atony; urinalysis asserted to be negative so far as trace of albumin, casts or kidney epithelium. Signs of edema were absent.

The autopsy proved entire absence of any cerebral tumor. There was a slight cerebral edema, an acute hydrocephalus, and a chronic interstitial nephritis. Thus the symptoms of uremia were mistaken for cerebellar tumor because the evidence of a negative urinalysis was accepted from another, while there is no doubt a painstaking and searching examination would have given positive tests for albumin, casts, and possibly kidney epithelium, and thus at once would have revealed the true significance of the symptomatology.

Another source of error in diagnosis lies in the too hasty association of ideas. In a malarious district not every inhabitant with an enlarged spleen and an occasional fever necessarily has malaria; not every painter that comes complaining of cramps and obdurate coprostasis has chronic lead poisoning; not every cook that consults with reference to a hematemesis has a gastric ulcer.

Thus the knowledge gained by the occasional association of certain trades with certain diseases is directive but by no means conclusive, and it is precisely in such cases that our analysis of the symptomatology and etiology of any specific case should be the more exhaustive and critical. These are the cases that demand shrewd judgment and draw on our largest resources if we are to give the proper values and deduce rightful conclusions.

The acquirement of the so-called "diagnostic glance" is solely obtained by a long patient schooling in this inductive method of diagnosis. It teaches us to grasp the important factors in any case and from them the lines of investigation that must be pursued and others that may be omitted for the want of time.

An abscess of the lung suddenly developing in the course of previous indefinite cerebral symptoms, as headache, somnolence, spasms, chills, and an irregular temperature, arouses at once a suspicion of lateral sinus suppurative thrombosis; whereas the same set of symptoms arising in a case of bronchiectasis, with the well-known drumstick fingers, a stinking sputum and hectic flush, should demand a thorough examination of the fundus of the eye for choked disc due to cerebral abscess.

Well-marked symptoms of indigestion, icterus, headache and extreme nervousness in a woman at full term would suggest acute yellow atrophy of the liver; but these same symptoms in a young despondent foreign girl of the working classes, instead of being a case of simple catarrhal jaundice, may be a case of phosphorus poisoning induced for the purpose of committing an abortion.

In emergency cases (particularly when coma is present) this well-developed "diagnostic glance" is of incalculable service. Here the physician must comprehend at a glance and act on premises rapidly if not too securely laid.

The work of the master in this respect is no trick of legerdemain, but the result of his thorough unerring knowledge gained through years of training in the inductive method of diagnosis and the fearless verification of those bedside conclusions at the autopsy. But humiliating, indeed, will be the experience of one attempting this rapid snapshot diagnosing who has not had the prerequisite bedside and postmortem training.

The failure thoroughly and systematically to examine our cases by the inductive method often leads to painful disclosures. The discovery of one lesion is no reason to cease searching for others, but on the contrary should be a stimulus for the discovery of complications or other independent primary lesions.

Among my autopsy experiments one pre-eminently illustrates the results of hasty clinical observations. A drunken man, run over by a wagon, had been brought into the hospital. After a hasty examination no lesion of a serious nature was diagnosed. A pleuropneumonia developed and the case was transferred from the surgical to the medical ward. Death intervened and the autopsy, performed by one of Europe's master pathologists, demonstrated a pleuropneumonia in consequence of twelve fractured ribs, six on either side. There was also found a complete fracture of one of the dorsal and one of the lumbar vertebræ, none of which lesions, according to the record, appear to have been diagnosed in life.

Although this represents an extreme case, nevertheless, reviewing my bedside and postmortem experiences, I can recall many instances occurring with painful frequency where eminent clinicians have been accused of the most egregious mistakes simply because pressed for time, the overcrowded conditions of our hospitals prevented each patient from receiving the requisite care and attention his case demanded for a successful scientific issue.

This brings up a present burning question in regard to our hospital services: Why have we not more physicians on our hospital staffs: and why is not better and more scientific work demanded of each, together with quarterly or semi-annual reports accurately summarizing the work done in each department so that the profession generally may become a beneficiary? Not all are privileged to receive hospital appointments, but those denied such positions of power are none the less entitled to the full knowledge derived therefrom, not through the occasional spasmodic efforts of the few, but through regular complete reports stamped with official authority, detailing with equal impartiality and minuteness both the failures and causes thereof, as well as the commendable successes.

Public hospital appointments should be regarded as positions of trust, and the scientific emoluments resulting from such trusteeship as the common property of the entire profession. Only men especially endowed with natural talents, education and executive ability, actuated by a true love of science rather than personal preferment, should be chosen as the profession's trustees to such positions.

Furthermore, as evidence of their right and fitness for such trusteeship original scientific contributions gleaned from their individual fields of labor should be demanded of them by the general profession as its eminent right and privilege.

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Rodesky fell off a surface car and injured his foot. Through neglect the wound became infected. He was sent to Bellevue

Hospital and then to the insane asylum. The jury found this verdict:

> "We censure the Manhattan State Hospital and Bellevue Hospital for failure to give the deceased proper treatment while in their care, and recommend that the Manhattan State Hospital increase the number of their attendants and adopt a system of reports to show the exact status of every patient at all times, making it possible for the authorities to ascertain at any time who is in charge of a patient."

Does it not seem wiser for the profession to demand a higher grade of work than to chafe under the slurs and humiliating criticisms of a public too often outraged by the unfortunate results occasionally following the independent hasty observations of the self-overburdened few?

Considering the difficulty of obtaining correct data as to the anamnesis and the status præsens, it is not strange that even experienced physicians occasionally commit serious errors because, through carelessness, overconfidence or lack of time, they pay too little respect to these premises. Nothnagel admitted that he felt himself quite fortunate when he proved to be correct in 60 per cent. of his diagnosis of difficult cases. It should not be forgotten that his every bedside conclusion was recorded and in case of death had to receive the judicial stamp of a rigid autopsy. Under similar conditions it is probable that not many clinicians would improve on this record.

This brings us to the consideration of one of the important topics of this address, namely, the value to both laity and profession of diagnosis when reviewed by the autopsy.

> Suppose under the influence of a strong public sentiment it was the prevailing custom for each case of death to be examined as to the cause thereof. What must be the ultimate and inevitable effect of such a practice? Would it not quickly expose the charlatan with his obnoxious nostrums and offensive advertising, lay bare the false claims of the numerous pseudo scientific delusions under which yearly many lives ruthelessly are sacrificed, and weed out the unfitted by natural selection under the operation of that most inexorable of all laws?[1]

Such a custom should be in force to-day, at least with respect to all patients dying in our charity institutions. In private practice public sentiment should be educated to the point of demanding an autopsy at least in all cases that defy an explanation free from speculation. In such cases the necessity of an autopsy is a positive duty, for the living are entitled to those secrets of the dead which alone can elucidate morbid phenomena. This is the sole invaluable service the dead can render the living. The laity becomes the great beneficiary of the raising of the professional standard which would result.

Pathologic anatomy is the force to-day disturbing the contentment and dry-rot in medicine engendered under the former régime of empiricism. It teaches us the abundant recuperative resources of Nature, thereby more and more emphasizing our own limitations and demonstrating the truth that all our therapeutics should be simplified and founded on more rational scientific bases, and employed only to assist Nature in overcoming insurmountable obstacles. This is neither hopeless therapeutic nihilism nor *do nothing* irresponsible fatalism, but rather the advocacy of a still closer study of the inimical forces about us and a more singular purpose in employing those of our protective agencies tried and not found wanting. Science to-day with its ever-increasing exactness demands that the intelligent use of any drug shall be the same as the skilful conservative use of the scalpel.

Pathologic anatomy is no respecter of persons, "pathies" or "isms," but an impartial moderator in all scientific controversies over somatology. It is pathologic anatomy that teaches us the transcendentalism and futility of high potencies; that curbs the reckless extravagant use of the prescription blank; that disillusionizes those misguided mental therapeutists who attempt cures in defiance of natural law and order. In a word, it is pathologic anatomy that levels the barriers that divide into schisms what should be one great united fraternity, and compels all schools, standing shoulder to shoulder on a common basis, to recognize that the science of medicine is subject to that one great universal law which controls all other phenomena in the natural world—the law of cause and effect.

If we are to remain in darkness, cloaking our mistakes with the mantle of vain assumption, as we frequently do to-day in the absence of a verifying autopsy, then let the present deplorable indifference continue. But if we would seek the light, surrendering self to science by thinking harder, speaking less frequently, but fearlessly and willingly facing our conclusions when spoken, thus having a little less of the personal factor in our work and a little more earnest searching for the hidden truths of medicine; if we would advance and maintain our noble profession in a position commanding the high respect and sincere veneration it should, but unfortunately often does not, receive to-day, as evidenced by the numerous pseudo-scientific "isms" flourishing among us; if we would protect both the laity and ourselves from our ever-recurring mistakes—thus silencing the criticisms and aspersions too often deserved, that our faith-curists and other enemies cast on us—then, harmoniously working together, clinician, pathologist and layman, let us welcome the invaluable knowledge to be gleaned solely from the respectful scientific autopsy of our reverenced dead.

214 West Seventieth St.

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[1] Darwin: Law of the Survival of the Fittest.

TYPHOID FEVER.

A SUMMARY OF 148 CASES WITH REFERENCE TO THE EFFICACY OF THERAPEUTIC FASTING.

R. M. HARBIN, M.D.
ROME, GA.

Autointoxication and inanition are the Scylla and Charybdis of a typhoid patient, and the physician who can pilot the charge through the narrow channel of safety, should be accorded a high degree of therapeutic skill.

For the treatment of typhoid fever a specific remedy has not been discovered, and the consensus of opinion is that medicines have but little more than a contributory effect in the management of this disease. So the drug treatment may be eliminated altogether from this discussion.

The process of using bacterial vaccines for hastening the process of immunization by increasing the phagocytic property of the blood, thus raising the opsonic index, a process which also takes place in a normal case of typhoid fever, is rational and scientific and deserves a more extended application. In other words, the processes of Nature are expedited by this method.

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* This paper, read at the Fifty-ninth annual session of the Medical Association of Georgia, Fitzgerald, April 15, 1908, is a continuation of some studies, a report on which was read at the New Orleans session of the American Medical Association, and published in THE JOURNAL, July 11, 1903.

At present it is universally agreed that the food factor in the management of a typhoid patient is the most important practical question to be solved. In this day of progressive medicine there is a tendency to wander away from convictions that have been evolved from years of bedside study. It is reasonable to suppose that the newer methods of research would reveal certain fallacies that have resulted from clinical observations, but it is unreasonable to admit that old clinical conclusions could be displaced by bedside studies of the present day, for it is doubtful that clinical observers of recent years are in any way superior to our medical forefathers.

Bacteriologic investigations have not caused us to discard many of the old clinical methods of management of typhoid fever, but, on the other hand, have enabled us to confirm and perfect the technic of treatment given by our predecessors. It is safe to say that the lowered mortality rates are now more due to that factor than to any other cause, excepting possibly the serum treatment. Of course there has been great advance in prophylaxis.

Our apology for offering these observations is that the heavy mortalities from the accepted form of treatment of typhoid fever are unwarrantably high. One of the best known surgeons in America a few years ago made the statement publicly that in one year a number of his family connection had died from typhoid fever, and had had the best medical service available; and further said that if he were to contract the disease he would prefer that some intelligent country physician should manage the case. Such comments are not uncommon.

As this summary is offered from the standpoint of a clinician, it is well to refer to certain clinical facts relating to this disease.

Typhoid fever is a disease of early adult life, the average age in this series of cases being 21 years. Extremes of age show less susceptibility, as do also the anemic.

Robust individuals seem to be more susceptible and furnish the more violent types of the disease, which is probably due to a peculiar susceptibility and to the fact that more infection is consumed. Of the total number there was 27 per cent. of cases classed severe between the ages of 20 and 30 years, while the percentage of severe cases among others was 12.4. There was a greater amount of toxemia associated with those exhibiting gastrointestinal symptoms, showing a direct relation between the extent of pathognomonic lesions and the constitutional symptoms. Of the fifty-seven severe cases, forty-five, or 78.7 per cent., gave marked gastrointestinal symptoms, while in the mild cases the percentage was 15. We have similar conditions in diphtheria, in which the extent of pathognomonic lesions, as a rule, bears a direct relation to the systemic disturbance. The toxin of the *Bacillus typhosus* is liberated by the disintegration of the organism, and takes place more rapidly in the human organism than in culture media.[1] The bacilli found in the feces represent those that have escaped absorption, and are probably a small percentage of those existing in the digestive tract. "In typhoid fever the bacillus first found its way from the alimentary tract to the lymphopoietic system, including the spleen, where it developed chiefly, and from it invaded the blood stream. They thought it doubtful if the bacillus multiplied in the blood, but believed that its presence there represented simply an overflow from the lymph organs."[2] So we would conclude that the battleground of treatment lies in the vicinity of the small intestines.

More characteristic symptoms are displayed in diarrheic cases, while the opposite is true of the constipated cases. A contrast of symptoms may be noted in the second week, where watery diarrhea exists, and a week later, when the bowels become constipated; yet the patient has been taking the same food and running the same temperature, while the symptom-complex has markedly changed. The excessive activity of purgatives is evidence of contraindication to this class of remedies, and as diarrheic cases tend to constipation, temperatures become lowered and, as a rule, general improvement follows.

Emaciation occurs independently of the amount of food taken into the stomach,[3] and this suggests the fact that but little food is assimilated, while the remainder furnishes a culture medium for the *B. typhosus* and other bacilli, thus giving rise to a mixed infection, resulting in a greater degree of toxemia. While the specific typhoid toxin is associated with high temperatures, it is not a constant accompaniment, as a patient may improve under a higher temperature. Tympanites and diarrhea are distressing complications, and under these circumstances it is almost criminal to give more than minimum quantities of the blandest forms of nourishment, for the absorption of food is almost *nil*. Because of an increased area there is increase of the absorption of toxins, while there is a transudation of fluids out of proportion to the intake of liquids, and whatever food is given under these circumstances usually excites peristalsis in the effort to eliminate the surplus. We know that under normal conditions peristalsis is essential to absorption, and in this abnormal condition it is reasonable to believe that peristalsis still increases absorption of toxic substances, and clinical observation warrants this conclusion. Feces usually consist principally of excretions from the intestinal walls.[4] Where there is toxic paralysis of this function the process of elimination and absorption is disturbed by any food residue, and one of the first signs of improvement in a case of typhoid fever is the appearance of feces in the dejecta. The use of purgatives will not force the presence of bile and feces, but aggravate a condition already established by the disease. It is frequently noticeable that a purgative or enema temporarily raises the temperature, which was not directly dependent on constipation, and this fact is not to be noted in any other acute gastroenteric disorder.

Ambulatory cases are not, as a rule, any less prone to intestinal complications than others, for obvious reasons. In fact, the diagnosis of typhoid fever is frequently made only after the occurrence of a fatal hemorrhage or perforation. Hemorrhage in an unsuspected case of typhoid fever often initiates a typical course of the disease because of the establishment of conditions favorable for the increase of intestinal symbiosis. Septic products from the decomposition of blood in the intestinal canal probably constitute a greater danger than the immediate loss of blood entails.

Of the seven fatal cases, four occurred in those primarily classed mild, and in one a fatal hemorrhage revealed the diagnosis. A late diagnosis is often responsible for the untoward course of a typhoid case.

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[1] Editorial, THE JOURNAL A. M. A., August, 1903.

[2] Coleman and Buxton: Bacteriology of the Blood in Typhoid Fever, Med. Rec., March 30, 1907.

[3] Lewis: Med. Rec., Aug. 2, 1902.

[4] Lusk: Science of Nutrition, p. 48.

The younger the patient, the milder the course of the disease. There were but three of the fifty-seven severe cases in patients under 10.

If the onset is sudden and severe, the duration will be shorter. The degree of pyrexia is not necessarily an index of gravity.

Pulse frequency, barring individual peculiarities, is an index of danger.

Delirium, when due to hyperpyrexia, has not as bad a significance as that occurring with a low temperature. Abortive cases show a greater tendency to relapse than others, probably because the organism has not had time to produce a sufficient amount of its own antitoxin. There were five relapses, or 3.3 per cent. of the total number of cases, and all were associated with some unusual gastrointestinal disturbances. This percentage is far below the average. The variety of types of this disease is more due to individual conditions than to variation in types of epidemics. There may be only one severe case in the family with others.

The first discernible sign of improvement is a notable increase of urine.

Clinical diagnoses were principally relied on in these cases. Cabot concludes[5] from extensive postmortem examinations that 97 per cent. of all cases of continued fever in the New England states lasting two weeks or more proved to be typhoid, tuberculosis or sepsis. From an investigation by Dr. H. F. Harris[6] of forty-five cases of "slow fever" in southern Georgia the typhoid bacillus was isolated in 51.1 per cent., the paratyphoid bacillus in 20 per cent. and a mixed infection in 2.29 per cent. of cases. The commission appointed to investigate the outbreak of typhoid fever during the Spanish-American war recognized the existence of continued fevers as belonging to the malarial and typhoid classes only. The Widal reaction is only confirmatory. So we would conclude from the available scientific data that clinical diagnoses can be made with a reasonable degree of accuracy. It is very necessary to make a diagnosis during the first week of typhoid fever, for the subsequent course is materially influenced by the management of the disease during this period of time. Every case of continued fever lasting a week or more without obvious cause should be assumed to be typhoid fever.

In those liberally fed a great majority of deaths from typhoid fever result, directly or indirectly, from gastrointestinal complications, and this would lead us to regard the dietetic management one most important part of treatment. As in all diseases for which there is no specific remedy, the aim should be to treat the patient and not the disease, for the patient in some cases of typhoid fever will recover under an abusive form of treatment, while in others the small thread of vitality can be conserved only by a precision of the most delicate management. In any case, however mild, the aspect of the disease may become suddenly changed by some intestinal complication. This leads us to the consideration of the food question.

The great desideratum is to nourish the patient without increasing saprophytosis. It would appear that a patient having vomiting and diarrhea would do better without food altogether for a time, while food could be taken *ad libitum* in another case without such disturbances. While a majority of the latter class would do well, a certain number would be changed to the former class. In a twenty years' experience I have not acquired a therapeutic skill that enables me to say which case will do well on a free diet. Previous to this series, which covers a period of twelve years, we have treated a number of cases on a liberal diet, with painful mortalities, so we must adopt a course that has fewer hazards. A small percentage of these cases were given liberal feeding where conditions were exceptional. It is a question of saving the greater number, for a small percentage of mortality is inevitable. When we can discover a preventable cause that produces death we should endeavor to apply the knowledge in subsequent cases. In fact, the majority of deaths are theoretically preventable. Of the seven deaths, four could have been prevented.

The proper food management will well-nigh shield a case of typhoid fever from the usual dangers incident to the disease. "Clinical typhoid is really in many instances a comparatively mild original infection, plus a fatal intestinal toxemia due to saprophytosis, plus inanition,"[7] and it is our belief that more patients die from saprophytosis than from typhoid infection. "Typhoid fever, especially in the later stages, was largely autointoxication."[8] It is absurd to try to maintain any standard that approaches a normal nitrogen metabolism in an acute infectious disease having gastrointestinal lesions, for the patient's life does not depend on it. A patient weighing 120 pounds requires 1,925 calories a day in health. In infectious diseases there is an increased waste of nitrogen, but it is advisable to give as much food as possible without increasing the amount of autointoxication. Fats and carbohydrates in excess do not prevent tissue waste, which is the inevitable consequence of the disease, regardless of the proteid content of the food.[9] That being true, a surplus of food would cause hyperpyrexia. So it is incumbent on the physician to keep his patient alive, by avoiding the dangerous effect of overfeeding, until individual immunity is established. Milk may be a digestible, or it may be the worst food. My inability to decide what cases are suitable to its use has led me to discard it altogether, for nothing is so disastrous to an intestinal ulcer as a milk curd. Mandel[10] has observed that in milk-fed fever patients the temperature rises or falls with the quantity of purin bases eliminated, and Lusk suggests the possibility that medicinal antipyretics nullify the activity of purin bases on the nerve centers because these remedies do not lower the temperature under normal conditions. The clinical observation has been recorded that milk is inadmissible in any form of hyperpyrexia, more especially that arising from gastrointestinal disturbances. It has been our observation that milk as food will not accomplish in the South what it is said to do in New England in the treatment of gastroenteric disorders. It is doubtful if the average man in health could digest the classical two quarts of milk a day when abruptly placed on that diet alone. It may be diluted, however, to obviate the danger of curd formation.

Therapeutic fasting—not starving, an incorrect term frequently used—serves an admirable purpose in allowing a typhoid case to pursue a more nearly normal course, for fasting is effectual by reducing the bacterial content of the alimentary tract, thus becoming a negative intestinal antiseptic. By such means we establish conditions more favorable for feeding. As the more violent types are seen in sthenic cases, this class furnishes the more favorable subjects for fasting, which is the only remedy we have for reducing a case more nearly to a normal typhoid infection. Fasting before abdominal operations is effective by reducing the number of intestinal bacteria. Kelly[11] advises fasting for the same reason in plastic operations of the intestines. "Cusing and Lovingood examined twenty-seven dogs and eight rabbits. They found that the duodenum, jejunum and upper part of the ileum were nearly always sterile after a fast. . . . Where patients have been subjected to preparations for an operation, the usual period of fasting has a marked tendency to reduce the bacterial content about the ileocecal valve."[12] Emaciation may not be any more marked in patients that have fasted than in others. Frequently the reverse happens, for nutrition is cell activity, and typhoid fever is not more fatal when accompanied by emaciation, for cell activity in sthenic cases may be paralyzed by toxins. In convalescence, gain in weight may be obtained on the same quantity of food, because cell activity seems to be stimulated by Nature's antitoxin. Metabolism is a function of the cell and is increased by autointoxication.

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[5] Tr. New Hampshire Med. Soc., 1907.

[6] The Journal A. M. A., Aug. 3, 1907, p. 407.

[7] Benedict: The Journal A. M. A., Nov. 17, 1906.

[8] Ewing: Med. Rec., March 30, 1907.

[9] Lusk: Science of Nutrition, pp. 264-265.

[10] Am. Jour. Physiol., 1904, x, p. 452.

The pathologic nature of tuberculosis and typhoid fever are very similar. The conclusion is established that the mixed infection, and not the tubercle bacillus alone, produces the hectic fevers, sweats, etc., which exhaust a tubercular patient. The tubercle bacillus plays only an initial part in the morbid process. In typhoid fever the initial lesion is caused by the *B. typhosus,* which opens up an area for the multiplication of other micro-organisms and absorption of their toxins. One truth clearly established in the successful treatment of pulmonary tuberculosis is the necessity for the enforcement of absolute rest of the respiratory organs as far as possible. Reasoning by analogy, we should endeavor to give as much rest as possible to the intestines in typhoid fever, and clinical evidences bear out this assumption. If pathognomonic lesions were away from the alimentary tract, forced feeding would be rational. In the treatment of typhoid fever we may apply with benefit Ochsner's rationale in the management of cases of acute appendicitis, his aim being to keep intestines in a passive state by fasting, thus reducing bacterial symbiosis, and by insisting on absolute bodily rest. In these two diseases increase of peristalsis is a means of distributing infection—in one disease, inside, and in the other, outside the intestines. The two conditions are essentially surgical.

> Hence the conclusion was reached that in typhoid fever, and other infectious diseases, an important part of the morbid process consisted in a disturbance of nitrogen metabolism which was very similar to that seen in pure autointoxication, and which, therefore, was not directly connected with the toxins of the invading bacteria. The excessive nitrogenous metabolism in typhoid fever was not the specific effect of the action of the endotoxins of the typhoid bacilli, but represented hyperactivity of a normal type, associated with fever. Wolf had pointed out that bacterial endotoxins were much alike in their actions, and affected chiefly the nervous system.[13]

The pathologic anatomy of typhoid fever shows a condition of gastrointestinal catarrh with hyperplasia, with a great reduction of all the digestive fluids. Saliva is diminished or absent, and hydrochloric acid is usually absent in the gastric juice, and, in fact, almost every condition unfavorable to digestion exists. Diarrhea is an effort of Nature to throw off what the intestines can not assimilate. Intestinal ulcers should be assumed to exist in every case, however mild, and the proper treatment of ulcers is rest.

The rational treatment of such a condition is a restricted diet, or fasting; then peristalsis can be better controlled by cold applications, and an opiate may be used if much diarrhea exists.

It has been our observation that the use of opium retards tissue waste during a fast, and in these cases it was prescribed when any indication arose, especially insomnia. Prof. Lafayete B. Mendel, professor of physiologic Chemistry in the Sheffield Scientific School, in a personal communication, says:

> The few available experiments on man regarding the influence of morphin on metabolism indicate no change in the respiratory exchange when therapeutic doses are given. The studies on animals have indicated a slight decrease in nitrogenous metabolism with small doses, and an increase with distinctly larger doses in starvation. It seems probable, from the small amount of experimental evidence available at present, that the doses used for your patients would exert no marked effect on their nitrogenous exchanges.
>
> Drugs may influence the course of metabolism, iodothyrin increasing it and morphin profoundly diminishing it.[14]

Death from starvation occurs ordinarily in eight days after the withdrawal of all food and water. The same result occurs, even though dry food is allowed, but life is prolonged forty days when water is freely given.

In sthenic cases fasting should be applied from one to three days until the active symptoms are controlled. Gentzen proved by experiment that fasting does not arrest the secretion of hydrochloric acid.[15] The reduction of the degree of toxemia is hardly noticeable the first day, but is shown by a reduction of one or two degrees of temperature on the second day, and on the third day more than that; but it is exceptionally advisable to continue fasting through the third day, as the severe symptoms are usually ameliorated. In other than sthenic cases, that is, in pregnancy, the puerperium, the tubercular diathesis, the anemic, senile cases, etc., fasting should not be applied, but in these cases there is rarely a necessity for its use. On the advent of pneumonia the patient should have more liberal feeding, because of increased demands for food. An argument obtains that fasting and a restricted diet enhance the effects of hydrotherapy, the technic of which will be referred to later. Full feeding in many cases results in the necessity of packing the patient in ice to control fever. Those violent toxic cases show marked improvement after a twenty-four hour fast, which allows the organism to unload the excessive amount of toxemia.

Many cases run an abortive course after the amphibolic period under a treatment by fasting and a restricted diet. After fasting twenty-four to forty-eight hours, a very restricted diet should be given, consisting of broths of beef, chicken, mutton, oysters, etc., coffee, cocoa, egg albumin, peptonoids, gelatin, etc., in prescribed amounts.

The effect of these slops should be carefully watched, and definite quantities should be ordered in severe cases. It is needless to say that they can be taken *ad libitum* in mild cases. The popular custom of water-logging the system is to be deprecated, and if the patient is rational his inclination would be a reliable guide. Lusk says that the ingestion of quantities of water causes a true increase of proteid metabolism.

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[11] Tr. South. Surg. and Gynec. Assn., 1905.
[12] Houghton: Med. Rec., Dec. 30, 1905.
[13] Ewing: Nitrogenous Metabolism in Typhoid Fever, Med. Rec., March 20, 1907.
[14] Lusk: Science of Nutrition, p. 289.
[15] Deutsch. med. Wchnschr., Aug. 22, 1907.

Gelatin is a valuable adjuvant in the dictary of a typhoid patient. It serves three purposes: it adds to the relish of the various liquids, lessens the nitrogenous waste from the system and prevents hemorrhage. A teaspoonful three or four times a day is the amount usually ordered and should be dissolved in a little hot water and then added to any liquid nourishment, meat broths, cocoa, coffee, tea., etc., or else flavored with wine or lemon and served with whipped cream. It adds richness of taste to these slops, which otherwise become tiresome to the patient. An agreeable sherbet may be made by combining gelatin with white of eggs with 20 per cent. of cream and sweetened and flavored to taste. The food value of gelatin, which, being in a concentrated form, serves an excellent purpose, is recognized.

Prof. Lafayette B. Mendel writes me in this connection: "Gelatin plays the same rôle as the carbohydrates in sparing tissue waste," and cites a conclusion by Dr. J. R. Murlin:[16]

> The power of the organism to utilize gelatin as a substitute for proteid in maintaining nitrogen equilibrium depends to some extent on the proteid condition of the body at the time of the experiment. The lower the proteid condition becomes, the more strongly does the organism lay claim to gelatin as a means of protecting its living substance. Herein appears a biologic adaptation of no small importance.
>
> Gelatin spares proteid in metabolism.[17]

When used emaciation is less rapid. The hemostatic effect of gelatin is universally recognized, but to wait until an intestinal hemorrhage has occurred but little immediate good can be hoped for by its use. It should be used as a routine in all cases to prevent hemorrhage. Very aggravated diarrheic cases do not tolerate it so well, as it may increase tympany. But in these cases it may be used on alternate days in small quantities. In the last seventy-three cases in which routine gelatin feeding was given no case of hemorrhage occurred after having been under treatment two days.

The case should be closely studied. Any surplus of food will be indicated by a rise of temperature, for to nourish the patient without overcharging the digestive capacity requires a very close study. Milk should be absolutely forbidden, because no one can predict when it will form a curd, which is worse that solid food. One of my patients had a hemorrhage in convalescence from taking milk and lime water in equal parts. I examined curds the size of a hazelnut in the bloody dejecta. The case was a mild one.

Another patient was seen in consultation, with symptoms of perforation, twenty-four hours after drinking two glasses of buttermilk at an interval of half an hour. He died three days later from peritonitis. This case was a mild one.

Milk is valuable, however, diluted with two to five parts of coffee, cocoa, broths, hot water, as under these circumstances the danger of curd formation is slight, unless contradicted by diarrhea and tympany.

This plan of dietetic treatment should be continued until active symptoms are controlled, and as improvement advances nourishment may be more liberally given. Solid food is a danger that offers few advantages to the patient. Nearly all recrudescences are due to dietetic errors. Fasting in late stages and convalescent stages will cause fever, as inanition often causes fever. The subsequent history of patients subjected to fasting has been in no way different from that of those more liberally fed.

As before suggested, fasting and a restricted diet greatly enhance the effect of hydrotherapy. Where there is fermentation in the alimentary canal with hyperpyrexia it is easy to understand how difficult it is to reduce the temperature by baths, but under other conditions the modified bath is effective, whether cold, tepid or hot.

I have often observed a reduction of more than two degrees of temperature after a single sponge bath in sthenic cases after fasting.

To illustrate: The patient in Case 94 fasted the first day and was then allowed a very restricted diet. There were given thirteen cold sponge baths, lasting from twenty to thirty minutes. The greatest reduction of temperature was 2.4 degrees, while the lowest was 0.8 of a degree, and the average 1.8 degree per bath. We would not expect to find such results under other circumstances. Constipation should be relieved on alternate days by a soapsuds enema.

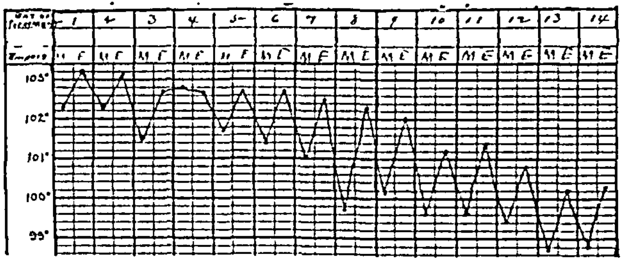

Chart 1.—A composite temperature chart of ten cases of typhoid fever.

TABLE 1.

Averages of 10 cases of uncomplicated typhoid fever under treatment by a restricted diet and fasting. These cases are taken at random from those lasting 14 days or more and do not include abortive cases.

Case No.	Sex.	Age.	Severe.	Gastrointestinal symptoms.	Nervous symptoms.	Duration, days.	Mortality.
72......	F.	17	+	+	—	33	..
80......	F.	14	+	+	—	14	..
81......	M.	20	—	—	—	15	..
82......	F.	18	+	+	—	20	..
88......	M.	5	+	+	+	14	..
93......	M.	25	+	+	—	15	..
94......	M.	24	+	+	—	21	..
95......	M.	23	—	—	—	16	..
96......	F.	26	+	+	+	30	..
98......	M.	26	—	—	—	14	..
Average		19.8	70. %	70. %	20. %	19.2	0 %
Average of entire series of 148 cases.....		21.	38.5%	39.9%	16.2%	17.4	4.7%

There are many minor details in the treatment of certain symptoms and complications that need no mention and are familiar to every clinical observer.

I append a chart of an abortive case (Case 108) in which the diagnosis was confirmed on the eleventh day by the Widal reaction. On the third day there was active delirium, with unconsciousness and diarrhea with tympanites. The notes on the chart need no comment.

In this report cases lasting twelve days or less were classed as abortive, and there were forty-nine cases, or 33.1 per cent. of this type, which is a greater proportion than ordinarily expected.

Abortive cases show a greater tendency to relapse, and require to be kept in bed on a restricted diet at least ten days after a normal evening temperature.

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[16] Am. Jour. Physiol., 1907, xix, 285.
[17] Lusk: Science of Nutrition, p. 102.

Of the total number, 144 were white and 4 black. Patients under 10 years, 23; between 10 and 20 years, 43; between 20 and 30 years, 54; and over 30 years, 28. There were 80 males and 68 females. The average duration of these cases was 17.4 days, that is, up to the time when the evening temperature became normal. Gastrointestinal disturbances were noticeable in 59 and absent in 89 cases. Nervous symptoms were marked in 24 cases and absent in 124 cases. Eleven cases, or 7.4 per cent., were complicated. Five patients, or 3.3 per cent., had hemorrhages, four of which were slight and one immediately fatal from coming out of bed during delirium. It may be remarked that two of these had hemorrhage before coming under treatment. Two patients had two attacks within twelve months. Pneumonia occurred as a complication in three cases; one had osteomyelitis, one hematuria, and one showed mental imbecility during convalescence, but recovered promptly. One case showed hyperpyrexia, the temperature reaching 106.7 F. and during the following week remaining subnormal. No case of perforation or thrombosis was diagnosed. Two patients had double parotitis and recovered. In one the parotid glands sloughed out *en masse*. The treatment adopted in the other case deserves some notice. A man 30 years old developed double parotitis in the third week, with symptoms of profound sepsis and collateral edema quite closing the eyes. Under chloroform anesthesia the glands were incised and a grooved director was passed in six or seven different directions through the edematous tissue of the gland to the depth of an inch or more. Symptoms of sepsis were ameliorated and swelling rapidly subsided without suppuration. Two weeks later orchitis developed. Three years previous he had had mumps, followed by orchitis. Among the seven deaths patient 46, a negro, died from urinary retention and neglect. Patient 57 died from hemorrhage in a few hours from getting out of bed, not having a nurse. Patient 70 died on the tenth day after convalescence, from pneumonia. There were no evidences of typhoid reinfection. Patient 64, a negro, alcoholic, died on the twelfth day, from asthenia. Death in Case 118 resulted from osteomyelitis after a month's duration. Patient 120, an ambulatory type, before coming under treatment, had hemorrhage, which determined a fatal issue. Patient 124, the wife of this man, being depressed with grief, died a month later, complicated with pneumonia. Of the 144 whites there occurred five deaths, or 3.4 per cent.

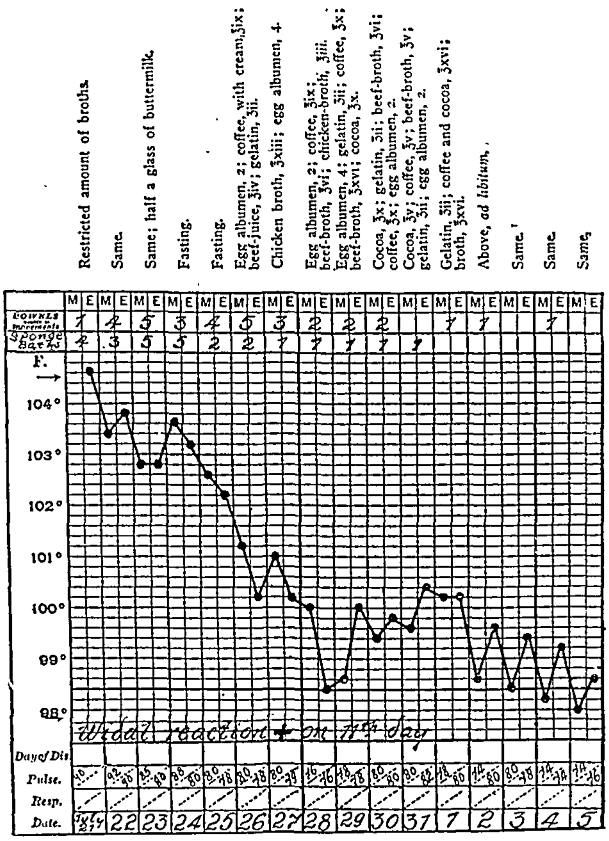

Chart 2.—Chart of an aborted case of typhoid fever; the record begins on the second day of the disease and ends on the seventeenth day.

CONCLUSIONS.

1. The food factor in the treatment of typhoid fever is the most important practical question to be solved.

2. Toxemia is more marked in cases having gastrointestinal disturbances.

3. Clinical evidences warrant liberal feeding only in a few cases.

4. The chief source of development of the *B. typhosus* is found in the intestinal canal and the lympho-poietic system.

5. The aim should be to nourish the patient without increasing saprophytosis, and the battleground of treatment lies in the gastrointestinal tract.

6. A greater danger exists from a toxic paralysis of nutritive activity of the cell than from inanition.

7. Any vital organs containing pathognomonic lesion of an infectious disease demand absolute rest.

8. The excessive nitrogenous waste in typhoid fever is not due to the endotoxins of the typhoid bacillus but probably mixed infections, and the specific typhoid toxin is not necessarily accompanied by high temperatures.

9. Emaciation occurs independently of the amount of food taken and results more rapidly from toxemia than from any lack of nourishment.

10. The patient's life does depend on attempting to maintain a normal nitrogen metabolism.

11. The proper food management will shield a patient from the usual dangers of typhoid fever.

12. Sthenic cases furnish the more dangerous types of the disease, and these are more amenable to therapeutic fasting.

13. Ambulatory cases are not less prone to intestinal complications than others.

14. A greater danger arises from septic conditions set up by a hemorrhage than the mere loss of blood entails.

15. Symptoms are no guides as to the presence of intestinal lesions, consequently patients require more or less routine feeding.

16. Abortive cases show a greater tendency to relapse.

17. Tympanites furnishes an increased area for absorption, and is provoked by any surplus of food, which increases peristalsis.

18. The great desideratum is to treat the patient and not the disease.

19. Scientific data prove that clinical diagnoses may be made with a reasonable degree of accuracy.

20. Therapeutic fasting allows an uncomplicated typhoid infection to pursue a normally mild course without any mixed infection, by reducing the bacterial content of the intestines. This was applied only to the severe cases.

21. Fasting will enhance the effect of hydrotherapy, and frequently render the use of antipyretic measures unnecessary.

22. Gelatin is a valuable food in that it lessens the nitrogenous waste and prevents hemorrhage.

23. The low mortality in this series of cases was greatly due to the elimination of relapses and complications among the mild or abortive cases by restricted feeding and lessening the dangers in sthenic patients by fasting.

24. In this report forty-five consecutive cases occurred without a death. Of the 144 whites, five, or 3.4 per cent., died, and the low mortality, 4.7 per cent., of all cases was ascribed to the dietetic management, though many of the cases had very inefficient nursing.

MIGRAINE, AN OCCUPATION NEUROSIS.*

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It is not claimed that this paper will present a complete explanation of migraine; it is hoped, however, that it will start a suggestive line of thought bearing on a pathogeny which can be at the best only hypothetical.

The form of migraine to which I shall confine myself is the every-day type, the variety which I have found occurring in complete form in 17 per cent. of healthy young adults, and in incomplete form in many more. It reaches its greatest intensity in early life and generally disappears after middle life. It is often preceded by scotomata, by temporary aphasia and numbness, loss of memory, signs of mental incapacity and confusion, and even possibly, as Gowers suggests, by the peculiar feeling that the present is a reproduction of the past, the feeling thus described by Coleridge:

> Oft o'er my brain does that strong fancy roll
> Which makes the present (while the flash doth last)
> Seem a mere semblance of some unknown past,
> Mixed with such feelings as perplex the soul
> Self questioned in her sleep.

Any of these symptoms may appear without the pain in the head. Loss of consciousness never occurs, a fact which sharply distinguishes migraine from epilepsy, though there have been attempts to make them analogous. The frontal and temporal regions are most often involved, the occipital next often, the vertex practically never alone.

At the time of greatest intensity the pain is sometimes accompanied by nausea and vomiting, especially in early life, whence the term "sick headache." The time varies in duration from several hours to a day or more. It does not often materially interfere with sleep, though it frequently appears on awakening in the morning. It does not necessarily accompany extreme use of the eyes, though it is apt to appear after such use, as on the morning following a theater party.

The so-called ophthalmoplegic form of migraine is so rare in comparison with this form, and so distinct in its symptoms, that it seems hardly fair to discuss both types together. The suggestion of Plavec,[1] that the ordinary form is the precursor of the ophthalmoplegic form, seems to have little basis, and his proposed pathology (periodic swelling of the hypophysis) as concerns the ordinary migraine, is purely speculative.

A case reported some years ago by Dr. Cheney and myself has a practical bearing on this question. A man of middle age had suffered many years from what was supposed to be the common type of migraine, though it was accompanied by the unusual symptom of persistent homonomous hemianopsia. The headaches became more severe, various paralyses appeared, mental deterioration ensued, and death followed. The autopsy revealed pituitary tumor.

While this case bears favorably on Plavec's location for ophthalmoplegic migraine, it is far from aiding us in the pathogeny of ordinary migraine. Nor does it suggest that ordinary migraine was the precursor of the more serious trouble. The migrainous headaches in this case should rather be regarded as symptomatic of the local lesion, no more allied to or resulting from ordinary migraine than epileptoid seizures from cerebral tumor are allied to, or result from, idiopathic epilepsy, though they may be mistaken for it at the outset.

Whatever theory is advanced for the pathogeny of ordinary migraine, the use of the eyes can hardly be left out.[2] The arguments connecting the use of the eyes and migraine are easily preponderant. In the first place too many cases of migraine have been relieved, in part or entirely, by correction of refractive error, particularly of astigmatism, to be explained by coincidence. In the second place, attacks have been frequently aborted by the mere straightening of glasses, as I have many times verified in my own case. In the third place, migraine has lessened and disappeared in innumerable cases after accommodative paralysis has appeared. Finally, study of the blind shows that the greater the blindness the less the migraine. My own examination of a long series convinced me that migrainous headaches are only half as frequent among the blind as among individuals of corresponding age and under like conditions.[3]

It may be objected that migrainous headaches are not quite unknown among the blind. But it must be remembered that it is a common practice for the blind, as for others, to adjust their accommodation to the distance of their work as judged, even in the absence of sight, by the position of the hands.

Assuming, then, that disturbance of the accommodative centers plays a part in migraine, it need not be expected that the blind shall be quite exempt.

Another peculiarity of *eyestrain* which has an important bearing on my proposition is the almost continuous frown of the astigmatic. This frown involves principally the corrugator supercilii and the anterior part of the occipitofrontalis, which muscles occupy the regions in which the pain most frequently appears.

If one voluntarily contract the brows for fifteen minutes he will experience a disagreeable sensation which suggests migraine in mild form. This leads to the question whether we must assume the pain of migraine to be entirely intracranial, a doubt emphasized by the recent observations of Cushing[4] showing the non-sensitiveness of the dura, the part to which perhaps more than any other the pain of migraine has been credited. It may assist us to recall a somewhat analogous pain which sometimes appears in the back of the neck and "base of the brain" after long-continued eyework in which the head is held firmly in one position. I have been not infrequently consulted for this pain by persons who have undertaken an uncommon line of work, requiring this posture, the commonest illustration being that of the person who has recently undertaken the position of secretary. This pain so often appears after the completion of the day's work, rather than during the work, that its source is apt to be overlooked. The pain is apt first to appear during the night or in the early morning, and is sometimes decidedly paroxysmal. The only relief is found in discontinuance, or lessening the constancy, of the work (unless, happily, the mere correction of refraction serves the turn). This form of headache is surely muscular rather than intracranial; its analogy to migraine is shown by the fact that it is sometimes preceded by twinkling scotoma.

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*Read in the Joint Meeting of the Section on Nervous and Mental Diseases, and the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, at Chicago, June, 1908.

1. Deutsche Ztschr. f. Nervenheilk., 1907, xxxii.

2. This statement does not apply to the views of those who find in migraine the precursor of vascular disease and cerebral softening. My conception of migraine is widely at variance with theories which include such outcome. When we weigh the isolated cases supporting this proposition against the hordes of cases running an innocuous course, it seems reasonable to assume that these few cases represent either coincidence of migraine and organic disease or symptomatic headaches which resemble migraine.

3. Eye Strain, Its Importance and Its Limitations, Boston Med. and Surg. Jour., June 22, 1905.

This occipital form of headache offers a fair illustration of acute occupation neurosis.

The proposition I have to submit is the following:

Migraine is an occupation neurosis, and involves (1) the visual centers; (2) the centers of accommodation (centers of divergence and convergence in the frontal region); (3) the intrinsic and extrinsic muscles of the globe, and (4) the muscles outside the orbit which are called into play in the effort required for accurate vision, principally the corrugator supercilii and occipitofrontalis, and also the muscles inserted in the occipital region, which serve to steady the head.

In order that we may approach the question fairly, it is important that we start with a clear idea of the symptomatology of occupation neurosis in general; its exact pathogeny is hardly susceptible of analysis.

This is a subject not generally understood. "Writers' cramp" has called attention to one symptom (cramp) which is really neither the most prominent nor the most common. Even writer's cramp has its "neuralgic" form, and in other occupation neuroses pain is not only by far the most prominent, but often the only symptom, the other symptoms, weakness, paresthesia and cramp, following with varying frequency and in varying degrees.

An occupation neurosis is a condition resulting from overuse of certain parts. The most constant symptom is pain, generally referred to the overused muscles, but sometimes extending to other parts. Among the less constant symptoms are muscular spasm and paresthesia. The symptoms may be constant or paroxysmal, and are not always synchronous with the muscular overuse which causes them, but sometimes follows after an interval. The disturbance involves the muscles and the sensory and motor cerebral centers which constitute the overused mechanism.

The following case illustrates a common form of occupation neurosis involving the arm:

Patient.—A woman, aged 30, suffered from pain in the thumb and first finger extending up the forearm, accompanied at night by a numb prickly feeling. She practiced much on the piano, carried a heavy music roll, and often sewed a whole evening without stopping. In short, there was almost constant use, in one form or another, of the hand. There was moderate tenderness of the forearm. There was no objective anesthesia or loss of power. The diagnosis of occupation neurosis was made.

Treatment.—No improvement appeared from simple rest, but when a splint was applied and the arm placed in a sling, thus producing absolute rest, improvement soon appeared, and complete recovery followed. She can now use the hand perfectly, but has learned to keep its use within reasonable limits.

The following case presents a connecting link between such cases and migraine:

Patient.—A successful laryngologist from another state had worked for twenty-five years without vacation. He complained of paroxysms of pain in the left side of the neck and behind the ear, sometimes accompanied by tenderness. The pain would come on when his head was placed in the position of operating, become rapidly unbearable if the posture was maintained, and persist after its discontinuance. It would sometimes come on at an interval after operating. Attempts to read sometimes produced the pain. He had astigmatism with correction by a competent oculist. The condition had naturally given rise to much solicitude, and obvious relief of mind followed the diagnosis of "occupation neurosis." The day following the consultation he spent in and about Boston, and for thirty-six hours was entirely free from pain, an experience which he had not had for some time. On the second day he was feeling so much better that he was tempted to return to his work, notwithstanding my advice for a prolonged abstinence from employment. He was desirous of visiting the Massachusetts General Hospital, and I there introduced him to the throat department, in which he was especially interested. Here he spent about an hour, watching operations, and examining throats. On sitting down to lunch afterward a violent paroxysm of pain appeared and lasted for some time. It recurred during the evening on taking up a paper and putting his head in the position of reading. The evening attack lasted several hours, during which the pain was intense and accompanied by tenderness. The only recourse in this case was absolute cessation from work for many months. He is therefore now taking an extended vacation and reports continued improvement.

This case, like many others which have come under my observation, shows that the pain of occupation neurosis may follow the occupation after an interval, just as that of "theater migraine" may first appear on awakening the morning after attending the theater.

The paroxysmal pain illustrated by such cases of occupation neurosis strongly suggests that of migraine. Nor are the minor symptoms of occupation neurosis wanting in migraine. The analogue of the paresthesia is the scotoma, which represents similarly, disturbance of sensory centers. Analogous to the cramp is the ciliary spasm, to say nothing of the facial spasm which sometimes appears in the lids and spreads to other parts, representing perhaps an effort on the part of the overworked centers to close the eye and relieve the tension. I have seen the most long-standing and obstinate cases of this spasm relieved by the correction of refractive error.

The suggestion that migraine is an occupation neurosis does no violence to the opinion of those who regard all migraine as the result of refractive error, and at the same time may prove more acceptable than the reflex theory to those who insist on the hereditary and constitutional basis of migraine. One need only be reminded that all occupation neuroses are more prevalent among the neurotic and the sensitively organized, in whose families appear the varied signs of feeble resistance. It is surely among this class that we look for migraine —but we have not explained migraine by simply conceding its hereditary tendency.

Furthermore, the theory of occupation neurosis would account for cases of migraine in which the patients have slight error of refraction, but marked psychopathic heredity, and at the same time explain its prevalence among those who have marked error of refraction, since the eyes are here used with an overwhelming handicap, the relief of which may well cause the disappearance of the neurosis.

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[4] THE JOURNAL A. M. A., March 14, 1908

According to the occupation neurosis theory migraine may even appear without error of refraction, in other words it may result from overuse of the eyes, or, in cases of extreme susceptibility, from moderate use of the eyes, just as writer's cramp may be produced, doubtless, in the absence of a faulty method of writing. The fact is recognized, however, that a faulty method favors writer's cramp, and, similarly, error of refraction is doubtless more potent than any other one factor in the production of migraine.

It is no objection to this theory that some individuals use the eyes continuously without migraine, while others acquire this trouble with comparatively little use of the eyes. The same is true of all occupation neuroses. One individual can practice with immunity on a musical instrument from early morning till late at night; in another individual symptoms of occupation neurosis appear with a few hours' exercise.

It may be objected that no account is taken of the vasomotor phenomena of migraine, a factor on which Eulenberg long ago based his entire theory of the pathology of the condition. But the vasomotor changes, in my view, at least, are so far from constant that they are not to be taken into consideration in the search for causal factors, but are rather to be reckoned, when present, as among the comparatively unimportant accompaniments. This is the view long held by Gowers.

The vasomotor symptoms are not only secondary rather than primary, but, in fact, they are not always present. All suppositions based on dilatation or contraction of blood vessels as a primary cause of migraine lead to theoretical considerations which obscure rather than clarify our ideas of migraine. And, further, all such theories are based on a fallacy, namely, that contraction and dilatation of blood vessels necessarily cause pain. To confute this proposition we need only remind ourselves of the extreme dilatation of blood vessels in the blush of shame or the turgidity of anger, on the one hand, and on the other hand, with the pallor of fear and faintness. Even the extreme degree of vascular spasm which results from cold produces numbness rather than pain. It is true that after exposure to cold with resulting vascular spasm, if warmth is too quickly applied, a vascular dilatation follows which is accompanied by extreme pain, but when we consider the extreme degree of vascular dilatation that produces no pain, it is questionable whether the pain is to be attributed simply to dilatation.

The vomiting is difficult of explanation by the theory offered, but it is not less difficult by any other theory. In point of fact, this symptom is probably not one of the essential features but rather an indirect result appearing generally only in the young and at the height of the paroxysm, representing rather a protective effort on the part of Nature, through producing general and special relaxation, just as fainting may appear at the height of pain, resulting from whatever cause. The fact that relief does often follow the vomiting fortifies this supposition.

CONCLUSION.

Migraine is an occupation neurosis resulting, in individuals of neurotic inheritance, from overuse, or use under the handicap of refractive error, of the parts concerned in vision.

It involves, like other occupation neuroses, disturbance of (1) sensory cerebral centers (those of vision in the occipital region); (2) motor cerebral centers (centers of divergence and convergence in the frontal lobe); and, (3) certain muscles (particularly the intrinsic and extrinsic muscles of the globe, the corrugator supercilii and the occipitofrontalis, and also the muscles which steady the head).

The pain of migraine is not necessarily intracranial, but is localized, in part at least, in the region of the muscles concerned, directly or indirectly, in vision.

DISCUSSION.

Dr. H. Gradle, Chicago: In one-fifth of my records of migraine (headache of periodic occurrence), an ocular origin could be excluded at the start. Of one hundred patients observed by me (consecutive but not selected cases), twenty-two were practically, under ordinary circumstances, relieved of their migraine by glasses as long as they wore them continuously. A few complained again whenever the glasses were omitted. Of these 22 patients, twelve had complained of their eyes, while ten had either not known that their eyes were at fault or had been annoyed only to a trifling extent Among the cured two had hyperopia, five had astigmatism against the rule or with an oblique axis amounting to 0.37 D. or more, and fifteen astigmatism with the rule (0.5 D. in two instances and > 0.5 D. in thirteen cases). An impression that I had gradually formed of the greater significance of astigmatism against the rule or with oblique axis is not fully borne out numerically by an analytic review of these records, but it is again strongly suggested by noting throughout my case books the more frequent coincidence of migraine with lower degrees of astigmatism (0.37 to 0.5 D.) when the meridian of greater curvature was not vertical. It has also seemed significant to me that one-sided migraine occurred strikingly often on the side of astigmatism with oblique or inverse axis in asymmetric cases (three in this series). Cases of migraine exclusively or mainly one-sided are especially instructive when the attacks occur on the side of the astigmatic eye and are permanently avoided by suitable correction (eight times in these twenty-two). It is significant that hyperopia of unequal degree in the two eyes does not provoke one-sided migraine. In fact, simple hyperopia figures only in a small proportion of the fully relieved (as well as the much benefited) cases.

Of the hundred patients, thirty-two were only partially relieved of their periodic headache. The headaches were less frequent or less severe and shorter. A few of these returned after years with the history of a long partial relief, but with recent increase in the attacks, though with optic change.

Twenty-six received glasses that proved useful as far as the eyes were concerned, but which did not influence the migraine. To these twenty-six I ought to add one-quarter (five) of the remaining twenty, who had previously been given correct glasses by others without benefiting the migraine.

The results are:

22 practically cured by glasses.
22 benefited by glasses.
31 not influenced by glasses.
15 not requiring glasses (except simple concave spheres).

Among those merely improved or not influenced as regards the migraine were a number who had besides the typical periodic attacks other forms of headache which were practically cured by their glasses.

An analysis of the imperfect results and failures showed an absence among them of one-sided migraine corresponding to the more astigmatic eye. Yet among the patients least improved there were a few pronounced instances of hyperopia and astigmatism of 1.5 to 2.5 diopters. There was also a scarcity of astigmatism against the rule (or oblique) in the negative series. In those least influenced by glasses there was oftener the history of attacks with fairly regular periodicity dating back to childhood than in the more benefited class of patients. The proportion of simple hyperopia was least among those entirely cured and greater in those only partially influenced

I believe that there are various factors involved in the etiology of migraine Heredity is one of the most constant, but not an invariable one Anemia, poor nutrition want of outdoor exercise and indoor confinement have in many instances coincided with pronounced aggravation In relatively infrequent instances migraine may depend on suppuration of a nasal sinus or the existence of a nasal stenosis In nearly one half of my observations there has been no relation between migraine and the eyes In fact, I have even found the neurosis fairly common among people who do not do much close eye-work Yet in about one third the correction of hyperopia and astigmatism made the patient less liable to migraine or reduced its severity In fully one fifth of my cases the headache could be practically prevented by the use of suitable glasses, when worn continuously

The scintillating scotoma is the symptom which more than any other suggests an ocular origin of migraine—at least to the patient The scotoma does not, however prove the ocular origin of the migraine, as in thirty five instances tabulated from my records I find twenty not requiring or not improved by glasses while nine were benefited and six were cured by spectacles In two of the cured and three of the benefited only hyperopia and not astigmatism needed correction, in several others compound hyperopic astigmatism was found

DR LUCIEN HOWE Buffalo We began by using this term 'migraine" in a most indefinite sense, meaning either one of two entirely distinct diseases, and we are now just beginning to recognize a difference between them We still talk about 'headaches," but that term may mean almost anything Head called attention some time ago to the necessity when we speak of headaches of stating just where that ache is what is its area, and also what is the area of increased or decreased sensibility As long as we talk in a general way about headaches, we are simply increasing the chaos which exists Again, when we speak of the strictly ocular symptoms, we may mean either the condition of the refraction or the condition of the intraocular or of the extraocular muscles, or of both That abnormality may be primarily in either or both of these groups of muscles or may be shown in them only secondarily in the effort to overcome any ametropia which may be present Now, in any given case, if we do not know what those factors are, we are discussing something indefinite, and increasing the confusion of our ideas Headaches especially when localized in the muscles in the frontal region or at the back of the head, are apparently *due to the action* of the accessory muscles of accommodation When we contract the frontal portion of the occipitofrontalis we draw also on the occipital portion That strain can often be relieved, as we know, by proper glasses or by cycloplegics

DR HUGH T PATRICK Chicago The use of the eyes is not an occupation at all, it is a function The idea of occupation implies something acquired for a definite purpose *Occupation* is connected with the artificial conditions of modern living, or, if you like, with the present state of evolution or development of humankind To put an occupation side by side with a thing as remotely as anciently physiologic, as the use of the eys, is, I believe altogether a strained comparison According to my understanding of Dr Walton's abstract, there might be ascertainable eyestrain and there might not be, but the idea was that the migraine might have been produced merely by the use of the eyes in a susceptible individual I believe that this is *an untenable position*, because the use of the eyes is a function just as much as mastication digestion and defecation, and we do not call those occupations at all Of course one may abuse his masticator apparatus or his digestive apparatus, and he may abuse his bowels and if he does he pays the penalty; but to say that a man has an occupation neurosis simply because he exercises, as he is bound to exercise these functions born away back low down in the primordial *something* which was originally the progenitor of man is rather far fetched

DR ALBERT E STERNE Indianapolis We must all recognize the fact that *no organs of the body* are so constantly in function as are our eyes, that considering the innervation of the eye, it is hardly wonderful that irritating effects should expand themselves on the central nervous system, notably the brain, through the medium of the eye I should, however, like *to register a strong objection to considering migraine* as an occupation neurosis, not only on the grounds that Dr Patrick has brought forth, but also on the ground that there is in all probability a very subtle but not well understood relationship between true migraine and epilepsy It is peculiar enough that the subject of migraine and the subject of epilepsy should come into close contact with the oculists so frequently It is possibly due to the fact that there is much to be said from the ophthalmic standpoint in dealing both with migraine and with epilepsy Shall we regard epilepsy as an occupation neurosis? Is *there any similarity, or is there even a remote connection* between migraine and epilepsy? These questions are far from being solved. We have absolutely no knowledge of the pathology of true, essential epilepsy or of the pathology of true migraine We know from certain facts and experiences that the two seem to run hand in hand frequently enough I have seen cases of true migraine, periodic migraine, cease, and in their place I have seen epileptic seizures for a series of years—major seizures at that, not minor—and I have seen these epileptic and epileptiform seizures cease and the migraine become *re established Such conditions are not extremely frequent* but still they occur in sufficient numbers to warrant us in regarding them as possibly allied, though I do not think that they are anything like identical They may, however, be founded on similar causes in any given case On the other hand, they may arise coincidently and independently

DR. D I WOLFSTEIN, Cincinnati The supposed effect of the constant contraction of the occipitofrontalis muscle in case of headache in connection with occupation neurosis would not appeal to me, as in many cases of headache the patients *voluntarily and frequently contract this muscle* with a view to getting relief from the headache, I do not doubt that in epileptics or those who have an epileptic diathesis or tendency occasionally a migrainoid attack may stand in the relation of epileptic equivalent, but I do not believe that migraine and epilepsy are interchangeable and closely related conditions Certainly most of those who suffer from migraine have nothing in their history to lead to the slightest suspicion that they are in any way epileptic I do not believe that migraine is often an occupation neurosis because it would be difficult to say what particular occupation itself causes migraine in a very large per centage of cases Indeed it is more apt to affect people who have no occupation at all I believe that there is a very decided connection in many cases of migraine and disturbance of digestion and that a fair proportion of cases are best treated when we take into consideration the gouty, arthritic, or autotoxic forms of disturbance *Often if we treat these cases* along the lines of improved elimination and alimentation, with the exclusion of those factors which are toxic in character, particularly the digestion of too much meat, good results are obtained In my judgment you will find that many cases of migraine are intimately connected with a disturbance in the digestive tract and that the factor of occupation is not of particular moment

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Propaganda Against Cancer in Uruguay.—L Calzada in a communication to the *Revista Med del Uruguay*, February 1908, compares the statistics of uterine cancer in various countries, especially in regard to operability It was only 7 per cent in his experience with 187 patients; in France the best statistics *give only 20 per cent* , in Italy, 5 per cent in Holland, 9 per cent He urges sending out circulars to physicians impressing on them the importance of early discovery of cancer, also circulars to midwives urging them to send to physicians all their patients with gynecologic affections, emphasizing their responsibility if they allow lesions to pass undiscovered He also urges education of women by lectures and pamphlets *in regard to the dangers of neglect* of uterine disease, advocating that this propaganda should be initiated and carried on by medical societies or official bodies to avoid opportunity for individual advertising by irresponsible *individuals*

OCULAR COMPLICATIONS OF PREGNANCY.*

HIRAM WOODS, M.D.
BALTIMORE.

In dealing with the ocular complications of pregnancy, I shall try to present the bearing of recent pathologic investigations on the cause of serious eye disturbance. Medical literature shows that there is scarcely an eye disease which has not been more or less directly traced to the pregnant state. Some of these we now know are not distinctively so caused. Pregnancy, at most, increases liability by lessening resisting powers. Power[1] published three interesting papers, claiming that, among other complications, pregnancy produced a definite type of superficial central ulceration of the cornea. With our present knowledge of the rôle of infection in corneal ulceration, it seems more natural to attribute to pregnancy only such influence as is seen after any other severe tax on the system.

The same is true of the supposed tendency to phlyctenular ophthalmia. Asthenopia, with its defective accommodation, short of absolute paralysis, varying muscular anomalies, occasional blurring of vision, may be laid at the door of the general nerve tax under which the pregnant woman lives. One must take into account, too, from the same cause, an increase in a preexisting hysterical habit. Thus, Knies[2] reports cases of temporary blindness, without urinary abnormality or ocular lesion, occurring after unusually painful labor. A patient of Szili's became suddenly blind from the opening of a window in a darkened room, and recovered only after six weeks. Then there are the considerable classes of metastatic ocular infections, of amblyopia from excessive hemorrhage, of lighting up of a latent syphilitic lesion, which would probably have remained quiet but for the overtaxed metabolism. I have seen specific chorioiditis relapse during pregnancy. But in all these cases there is, so far as I can see, nothing that is not observed after numerous other conditions.

Apart from temporary functional derangement, hysterical or neurotic, and diminished tissue resistance, there are certain ocular troubles of intensely serious significance to eyesight and even to life, which are observed with sufficient frequency during pregnancy to make the relation of cause and effect almost certain. For purposes of study, they may, I think, be divided into four classes, based on clinical manifestations: (1) The so-called uremic amaurosis, or sudden and complete blindness, without ophthalmoscopic lesion; (2) The hemorrhagic, exudative and degenerative changes in the retina, occurring in connection with albuminuria, and termed albuminuric retinitis of pregnancy; (3) Temporary or permanent loss of central vision or some portion of the visual field, without retinal lesion, the fundus either appearing normal or showing pallor of some portion of the optic disc; (4) A definite neuroretinitis, with hemorrhages and exudates, but not resembling the albuminuric retinitis.

We may consider each of these separately.

1. *Uremic Amaurosis.*—In its association with pregnancy, the term has the same meaning as in nephritis: sudden occurrence of total blindness (usual form), or great impairment of vision. There may be associated other nervous symptoms, such as headache, vomiting, etc. Pupillary reaction is usually maintained, and Fuchs thinks this proves "that the location of the affection can not be in the eye or the optic nerve, but higher up, i. e., in the brain, which is poisoned by the excretory matters retained in the blood."

No lesion is found in the eye, and while this form of blindness has the gravest possible significance in chronic nephritis, and may be serious in pregnancy, it is usually transitory in the pregnant woman, provided she survives other complications. So far as my observation goes, it is confined, when occurring in pregnancy or parturition, to eclamptic cases, and follows the convulsion. The cause of this blindness is usually attributed to uremic poisoning, dependent on kidney disease.

The name, uremic amaurosis, is applied to cases incidental to pregnancy and parturition, because of the similarity of symptoms in the nephritic and parturient forms of blindness, the usual co-existing albuminuria, and the deeply grounded belief that it is through the medium of the kidneys that pernicious vomiting, puerperal convulsions and blindness occur. Difference in the prognostic significance of nephritic and parturient blindness is generally attributed to the fact that in the former the kidneys are in an advanced stage of disorganization, while in the latter the cause of blindness terminates with labor; but that parturient blindness is uremic and that derangement of kidney structure and function is essential to its production seems the fixed teaching of to-day, so far as our text-books go.

2. *Albuminuric Retinitis.*—The characteristic silvery-white, radiating spots, seen in the perifoveal region and at the disc margin, are too well known to need description. In both chronic nephritis and pregnancy the appearances are practically identical. As is well known, in the former these spots are considered of grave significance, and a fatal termination usually comes within two years. In pregnancy, they may appear as early as the third or fourth month, but usually they are seen toward the close of pregnancy.

According to Fuchs these white patches are made up of "fatty degeneration of the retinal elements and of the cells of the exudate." De Schweinitz states that in the retinitis of pregnancy the type is most often inflammatory, and that with the termination of gestation these inflammatory deposits may subside. It is on this possibility of absorption of inflammatory exudates before destructive processes have occurred in the retina, that we base the better prognosis in this form of retinitis. Hence, there is a practical unanimity of opinion that the only logical treatment is induction of labor. While, however, this is true, and while the kidney lesion of pregnancy, to which the retinal inflammation is attributed, is, as Fuchs says, "benign," there is not in our ophthalmic literature much suggestion of any other pathway from the uterus to the eye than through the kidney. Is this a logical or correct position in view of teaching from modern pathologic investigation?

One finds, in treatises on obstetrics uniform warning about the increased danger from pregnancy to a woman who has chronic nephritis. She is certainly more liable to show remote complications of kidney inflammation than she would be if the extra burden of pregnancy were not put on her. But if she develops uremic blindness or albuminuric retinitis during or at the close of pregnancy, the latter condition can no more be blamed for the complication than other influences which are known to exert a bad effect on chronic nephritis. At most, gestation is only an exciting cause and the complication is really dependent on the antecedent nephritis. The same is true of acute nephritis, from any of its usual causes, developing during gestation. Danger of remote complications or even of a fatal ending are greater. But this is not equivalent to saying that pregnancy can cause real nephritis, or that, in a woman, free from kidney involvement before pregnancy, the latter can so influence kidney structure and function as to produce through them grave ocular complications. Indeed, the weight of opinion seems the other way.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Lancet, Lond., May 8, 15, 22, 1880.

[2] The Eye in General Diseases.

In the American Text-Book of Obstetrics the author of the chapter on the pathology of pregnancy says: "An acute inflammation of the kidney can not be caused by pregnancy, and is only observed in the rare cases where infective bacteria find entrance to the genito-urinary tract of the pregnant." J. Clifton Edgar states that "the kidney is affected in pregnancy by lesions which stop short of actual nephritis." This lesion is "purely a disease of the renal epithelium which undergoes fatty metamorphosis—a deposit and not a degeneration."

It may be well to speak a moment of the so-called "kidney of pregnancy," a condition to which we are apt to attribute too much importance. J. Whitridge Williams mentions it only incidentally in the first edition of his book, and in the second edition says: "It is a slight degree of nephritis. . . . Such conditions are nearly always connected with the various disturbances of metabolism which will be taken up under toxemia of pregnancy." Edgar says: "There is an affection to which the term 'pregnancy kidney' is familiarly restricted, and which is certainly not due to pressure, nor has it anything in common with ordinary nephritis, whether pre-existent or developing during gestation as a result of exposure or infection. In one sense, the notion of pregnancy-kidney is a negative one, formed after the exclusion of other renal lesions, and including numerous conditions which present little in common." Hirst seems to attach more importance to it than most modern writers, and says: "There is often albuminuria in advanced degrees of the condition. Hyaline and granular casts, with epithelium filled with fat, may be found. The kidneys may prove physiologically insufficient, and there may appear all the symptoms of renal insufficiency observed in true nephritis." Hirst also differentiates between chronic nephritis and the kidney of pregnancy, and says that in the latter the kidney symptoms are usually confined to the last months, while in nephritis they are pronounced at an early stage; and, again, that so far as his experience goes, albuminuric retinitis does not appear in the kidney of pregnancy, unless symptoms point to chronic nephritis.

The question I am trying to present is—are ophthalmologists justified in limiting their conception of the etiology of pregnancy-blindness or retinitis to renal lesions? Pregnancy does produce temporary blindness, and sometimes permanent impairment of vision in women previously healthy. It does cause retinal spots of exudation and degeneration in the same class, and the retinal lesion is usually accompanied by albuminuria. But is albuminuria the pathway to the retinal disease, or is the blindness essentially uremic? The recognized authorities from whom I have quoted might be multiplied, but such a course would only confirm the opinions expressed: (1) That pregnancy itself does not produce nephritis; (2) That the so-called kidney of pregnancy is usually insignificant in its effects. and recovers; (3) That it does not produce what we term "albuminuric retinitis."

We may now study the matter from another point of view. The dimness of vision or blindness in cases which do not show retinal lesion usually comes toward the close of gestation, during or after parturition. Again, the visual defect is one of a symptom-group of which headache, somnolence, convulsive seizures, etc., are members. This array has received the name of eclampsia, and convulsions are its prominent manifestation. As is well known, puerperal eclampsia, or convulsions, was generally thought, until late years, to have a renal origin. This opinion was based on the close resemblance of the puerperal to the nephritic seizures, and the usual presence of albuminuria.

Beyond mention of a few facts it is needless to discuss the reasons for abandoning this theory. Briefly, the insignificant renal changes often found at autopsy, and absence during life of symptoms of renal involvement in cases of eclampsia, started investigations which have led away from the renal theory. Edgar agrees with Williams that the pregnancy kidney is most probably a mild product of toxemia. He adds: "The all-important subject of the connection between this renal lesion and eclampsia is best accounted for by attributing the latter to the toxic state and not to the kindey lesion, which is itself the result of the same or an allied toxemia. There is, moreover, every reason to believe that this unknown toxic state of the blood is not uremia."

In the last edition of his work on obstetrics Williams reviews at length his own work on the pernicious vomiting of pregnancy, first published as a monograph in 1906, and includes the work of Prutz, Schmorl and others. A brief summary of conclusions may be given. In pernicious vomiting there are found hepatic changes identical with those found in acute yellow atrophy of the liver. There is profound necrosis of the central portion of the lobule, while the periphery remains intact. The lesions differ from those observed in eclampsia in which the process is essentially one of thrombosis and begins in the peripheral spaces. Williams urges that the hepatic changes in both pernicious vomiting and eclampsia may account for at least part of the urinary changes through the non-conversion of nitrogenous material into urea and its excretion as ammonia. He continues, "It should not be believed that the essential process consists in the hepatic or renal lesions, but in an underlying toxemia, to which they are due."

To summarize those parts of the work which touch ocular problems, it seems to be the prevailing opinion (1) That eclampsia of parturition is not uremic; (2) that both eclampsia and pernicious vomiting are results of a toxic substance circulating in the blood whose nature, or natures, are unknown; (3) that these toxic substances are capable of profoundly affecting the liver, and do so in a much more characteristic way than they do the kidneys; (4) that these substances can produce thrombosis in many of the smaller vessels with consequent degenerative and necrotic changes in various organs.

This conception of the serious complications of pregnancy, if confirmed, will put renal complications in the list of toxic effects. It will also influence our conception of these renal complications as the cause of ocular disturbances. The question will arise whether the toxemia which produces the renal, hepatic and other lesions may not also produce the ocular disturbances and lesions. If eclamptic convulsions are not uremic, except in cases of aggravated pre-existing nephritis, it seems more logical to attribute the temporary blindness of eclampsia to the toxemia of the latter, than to bring in an uremia whose existence is at the most hypothetical. A toxic substance capable of causing such profound nerve disturbances as convulsions and many of the sequelæ might affect the optic centers as well. And, as a matter of fact, we know that these centers are often affected, sometimes permanently, by toxic agents having no connection with uremia.

SECONDARY EFFECTS OF TOXEMIA.

The secondary effects of a toxemia are many; edema, exudation, thrombosis, apoplexy, etc., are among them. They affect the nervous system as well as other parts. Among 65 eclamptic autopsies Schmorl[3] noted thrombi in the smaller cerebral vessels in 58. Edema, hyperemia, etc., were practically constant.

Bearing these facts in mind, we may for a moment look at what we term the albuminuric retinitis of pregnancy. I think all of us have seen nearly identical appearances in patients without albuminuria. I have seen them in a chlorotic girl, with functional menstrual trouble, clearing up with improvement in general health. There was no albuminuria. I have seen them in an apparently healthy boy, without known cause, who later developed a chorioiditis of exudative type in the other eye. In a case of neuroretinitis from venous thrombosis during pregnancy the characteristic retinal spots were evident. Yet there was no albuminuria.

Dr. James Bordley has been making careful study of ocular changes in cases of brain tumors at the Hopkins Hospital. He tells me that he has studied two hundred cases, but at this writing has tabulated only half. Yet in sixteen he found spots in the retina which he would have called albuminuric. The urine was normal. Diagnosis of intracranial neoplasm was confirmed by operation or autopsy. He and Dr. Cushing attribute the retinal changes to pressure, edema, exudation and consequent degeneration without inflammatory processes. All these are logical results of toxemia.

We have, then, the facts that other conditions than albuminuria can produce the characteristic clinical retinitis which has been called albuminuric; that among these are effects produced by toxemia, and that it is to a toxemia that kidney changes in pregnancy are attributed; that in cases in which premature labor has been induced, cure of the retinal lesion has followed. I do not think it is going too far if one urges, with evidence at hand, that we cultivate at least an open-mindedness regarding the causation of what we have always termed the albuminuric retinitis of pregnancy. Such a state of mind has one very important bearing on therapeusis. So long as we interject an albuminuria into our thinking we will be in imminent risk of sacrificing eyes. There is but one remedy that will cure the disease—prompt emptying of the uterus. But if there is no albuminuria, and we believe this to be an essential pathologic factor, we will miss our only opportunity to save vision, and subject the patient to the risks of a profound toxemia, already evidencing its presence in a most dangerous form.

3. *Loss of central vision or some portion of visual field, without retinal lesion.* In 1902,[4] I reported a case, the fields of which are here reproduced (Figs. 1 and 2). Her history is given here as Case 1. At the time I was able to find only one such case reported in medical literature, but another has since been found,[5] and it is more than possible that there are others, under one name or another.

CASE 1.—Patient was 33 years of age, in her first confinement. From the sixth month there had been traces of albumin, and careful watch had been kept. Her pregnancy was closed abruptly toward the end of the ninth month by instrumental delivery, after a single convulsion. Recovery was without incident, except that for four days she had transient visual disturbances, and then, with an atrocious headache, she suddenly lost the left field of vision. This was in September, 1901, and the loss has been permanent. Dr. Whitridge Williams recently furnished me with the following data concerning the urine. Its importance was not duly appreciated by me when the original report was made: "For the week prior to the eclampsia the daily amount of urine varied from 43 to 64 ounces, while the albumin and urea content varied from 0.5 to 1.5 grams and 7 to 10.5 grams, respectively. For the week following the eclampsia the quantity of urine varied from 33 to 65 ounces, the albumin occurred only in traces, while the urea content varied from 15 to 21 grams per day." The significant element is diminished output of urea.

CASE 2.—In this case the fields were taken in May, 1903, and again in March, 1908 (Figs. 3, 4, 5 and 6). Central vision then, as now, was 20/20. The papilla now is slightly pale (?). The following history was furnished by Dr. Williams: "The patient is a well-nourished woman, 37 years of age. Her fourth pregnancy began March 16, 1902. In July she complained of some headache and diminished urinary output. At this time the daily quantity of urine was 29 ounces, which contained no albumin and only 10 grams of urea. She was immediately put on a milk diet, and in the course of the next few days the urinary output had increased to 67 ounces, and the urea to 16 grams per day. Following this all symptoms disappeared. A 24-hour specimen, seen December 12, contained no albumin and 20 grams of urea. The patient went into labor on Jan. 1, 1903, and had an easy spontaneous delivery after eight hours of labor pains. The child was normal and weighed 7½ pounds.

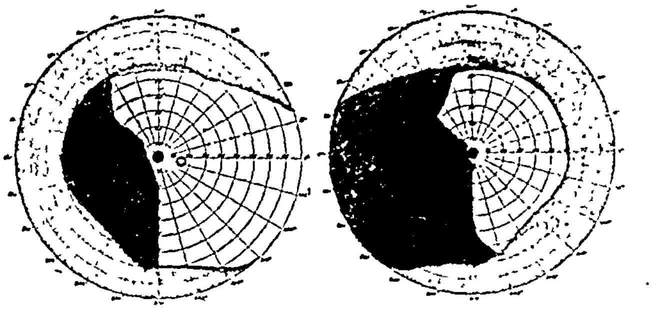

Figure 1. Figure 2.

Figs. 1 and 2.—Case 1. Fields showing loss of a portion of visual field without retinal lesion.

"The third day after labor the patient began to complain of flashes of light in her right eye, and the next day of intense neuralgic pains, particularly on the right side of the head. (The defect in the visual field occurred two or three days later.) January 13 there was a feeling of numbness on the left side. Closer examination showed a complete hemianesthesia. At the same time the muscular forces were considerably diminished as compared with those of the opposite side. On the seventh day of the puerperium the urine was negative, but on the thirteenth day it contained a trace of albumin, but no casts. A 24-hour specimen on the nineteenth day amounted to 50 ounces, and contained 42 grams of urea and a marked trace of albumin, with a few casts." Blood examination showed 4,248,000 red cells, 11,500 white cells, hemoglobin 50 per cent.

She was put on iron and made a complete recovery, except for the hemianopsia and nervous symptoms on the left side.

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[3] Williams' Text-Book.

[4] Proc. Am. Ophthal. Soc.

[5] Brit. Med. Jour., Sept. 30, 1893.

There is still, five years later, marked impairment of sensation in the left hand and diminished muscular force, as compared with the right hand.

Dr. H. M. Thomas saw this lady in 1903, and I append a report he made in 1905: "She has, two years after the attack, marked sensory disturbance over the whole left side. Touch is perceived nearly normally, but painful stimuli with the point of a pin are not felt as sharp pricks, but at times are painful. There is marked disturbance in the perception of hot and cold stimuli. Heat is usually not perceived at all, and cold is only felt as pain and not as cold. Muscular sense is somewhat disturbed in the hand, and there is a complete loss of the stereognostic power. There is also some ataxia in the movements of the left hand. The symptoms, I believe, are the result of softening in the posterior part of the internal capsule and the region just posterior to it, probably due to a thrombosis of the posterior cerebral artery."

Case 3.—The patient had had five miscarriages, but was delivered of a full-term dead child Sept. 26, 1906. The history suggests syphilis. Her physician being dead, no particulars of gestation, etc., are obtainable. However, she had never noticed any visual defect until she was up after this confinement. Then she found herself running into chairs, etc., on the right side, and consulted Dr. J. J. Carroll, of Baltimore, who found normal central vision and the fields shown in Figures 7 and 8. She was in excellent health.

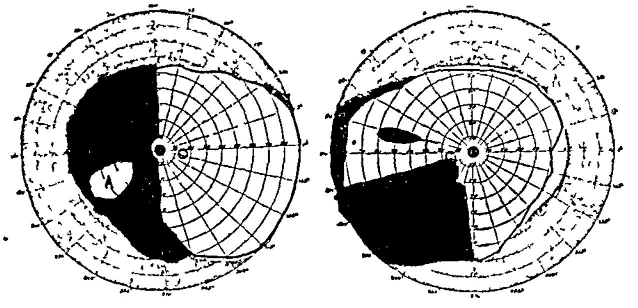

Figure 3 Figure 4

Figs. 3 and 4.—Case 2. Showing visual fields as found in May, 1903. A, Dim area.

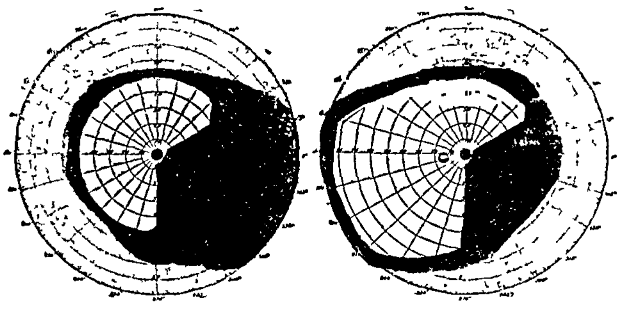

Figure 7. Figure 8

Figs. 7 and 8.—Case 3. Showing visual fields as they appeared shortly after confinement.

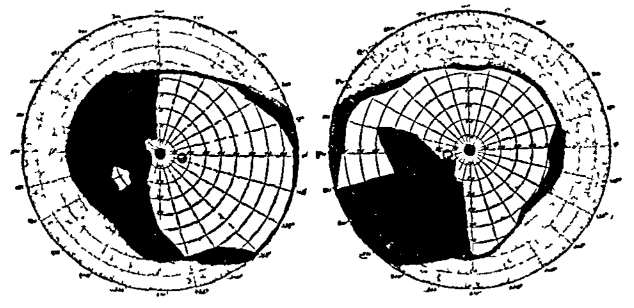

Figure 5 Figure 6

Figs. 5 and 6.—Case 2. Showing visual fields as found in March, 1908. The light area within the solid black in Figure 5 indicates the dim area.

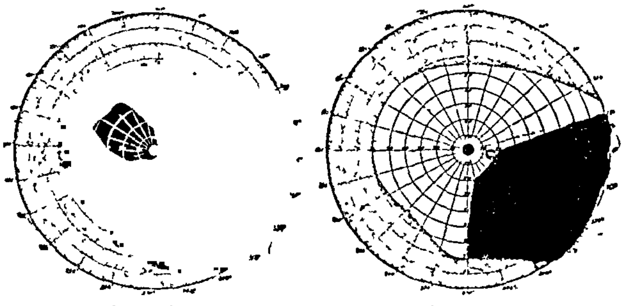

Figure 9. Figure 10

Fig. 9.—Knaggs' case. Visual field taken just before abortion occurred.

Fig. 10.—Knaggs' case. Visual field taken eleven months after abortion.

As stated, when I reported my first case in 1902, I found but one case on record, and this showed temporary right hemianopsia. F. Pick, who investigated the case, thought the visual disturbance resulted from a toxic paralysis of the central tracts of the optic nerve, with more marked involvement of one hemisphere.

R. Lawford Knaggs[5] reported the case of a woman, 40 years old, who for eight years had been blind in the left eye. The blindness was first noticed after confinement. Though not stated in the report, it is evident that she was pregnant when she applied for refraction correction for the right eye. In the course of six weeks vision failed, while the field, taken before abortion, is shown in Figure 9. There was no albuminuria. Eleven months after abortion central vision was normal, and the field showed loss of vision in the right lower quadrant (Fig. 10). The reporter thought the case one of reflex amblyopia, and quotes this explanation from Mr. Priestly Smith, "A peripheral stimulus acting through the sympathetic nerve leads to a vasomotor effect within the eye, and the defects of sight are produced through the medium of the vessels of the capillary layer of the chorioid. . . . The amblyopia is due to the impaired nutrition of the rods and cones." Mr. Knaggs recognizes that the permanent loss of a field quadrant is against this explanation, but attributes it to commencing atrophy. It is noteworthy that in the discussion E. F. Drake Brockman took exception to a reflex explanation, and hinted strongly at what we now term toxemia, with resulting hemorrhage or thrombosis. He calls it "the altered character of the blood."

J. Herbert Fisher[6] reviews several cases of what he terms "Obstetric Neuritis." reported by Dr. H. G. Turney.[7] Fisher adds a case of paralysis of one pupil, occurring during pregnancy, in connection with other nerve derangement. Incidentally, he quotes Turney's criticism of Knaggs' case, Turney attributing the blindness to a retrobulbar neuritis of toxic origin.

Mention may be made, finally, of a case reported by Dr. Charles J. Kipp, of Newark.[8] The patient lost vision in the right eye after four pregnancies, in each of which there had been ocular trouble. Dr. Kipp saw her first after her third confinement. Except for a slight loss of transparency in the region of the disc the fundus was normal. Yet there was an absolute central scotoma. There was no albuminuria. In the fourth pregnancy, with reduction of vision to light perception, there was pallor of the disc, with indistinctness of outline. Later small hemorrhages appeared in the retina. The case ended in total atrophy. Dr. Kipp says that to him "it seems most probable that the pregnancies caused a disturbance in the vascular supply, a congestion at or near the apex of the orbit, and that this produced pressure on the optic nerve and its sheaths." He says that others have attributed such conditions to autointoxication.

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[6] Ophth. Rev., xvii, p. 317.
[7] St. Thomas' Hosp. Rep., xxv.
[8] The Journal A. M. A., June 30, 1906, p. 1986.

In all these cases, I think, nephritis can be excluded. The vascular supply and reflex explanations do not seem reasonable. From what we now know of the toxemias of pregnancy, of the results of toxemia in producing edema, thrombosis, exudation and necrosis, of the frequency of involvement of the nervous system in this toxic process, it seems to me that we abandon an adequate and ready explanation when we leave this field. For instance Dr. Kipp's case, with its central scotoma in the third pregnancy, partial recovery between pregnancies, preservation of peripheral vision throughout, seems to be a typical picture of a recurrent toxemia.

These fields are worthy of more than passing notice. In some of them the entire half is obliterated. In others, where part of the affected retinal half is spared, the tendency is decidedly toward permanent involvement of the lower quadrant. I do not know why this should be. But it has, possibly, some bearing on etiology. Assuming, as I think we should, that toxemia is the basis of the lesions, the fields indicating total obliteration of a retinal half are probably the result of a necrotic process, while those showing preservation of a quadrant are more likely the result of toxic neuritis, certain fibers ultimately escaping, while others were destroyed Thrombosis, necrosis and neuritis are essential factors of deep toxemia. It is also interesting to compare Figures 3 and 5, and 4 and 6. These are taken five years apart, from the same eyes The large "dim area" in the lower nasal quadrant of Figure 3, taken in 1903, is found in the midst of a large scotoma. Figure 5 shows some preservation of this seeing spot. Figure 4 shows that in 1903 there was a scotoma in the upper temporal quadrant, and five years later (Fig. 6) this has broken through and joined the obliterated lower temporal quadrant.

The last ocular complication of pregnancy of which I shall speak is a hemorrhagic, exudative retinitis, and does not suggest the type known as albuminuric I have seen only two such cases, and these within the past four weeks. I have not had time to make as complete a study of the literature as I should like, and hope at a later period to present the cases in a more thorough manner. However, the little research I have been able to make justifies classifying them as complications of pregnancy. Enough has been found to prove that others have observed this form of neuroretinitis during pregnancy.

There is a brief review[9] of an article by Paul Bar[10] on the poly- and mono-neurites of pregnancy. He cites two cases, one a young woman of 22, who lost both eyes in successive pregnancies from neuroretinitis. In this case there was albuminuria. In a second case, dimness of vision had been experienced toward the close of a first pregnancy, but little attention was paid to it. Later, Panas diagnosed optic neuritis. A second pregnancy destroyed both eyes. No mention is made of the urinary examination in this review, but Pujo,[11] states that the second case did not present symptoms of kidney involvement. Groenouw[12] says: "But retinal diseases, and hemorrhages in the retina in particular, also occur in the pregnant woman whose urine is free from sugar and albumin and who has no cardiac disease. Te-Mais reports on four such cases, of which three were completely cured after delivery. In the fourth case, hemorrhages of the conjunctiva appeared in the third month of pregnancy, and two months later in the retina."

Pujo studied the neurites of pregnancy thoroughly and goes over some of the cases mentioned in this paper. He concludes that the underlying cause is a toxemia of unknown nature, and excludes the kidney. The renal lesions, when present, he thinks secondary.

With this brief review of published cases, which seems sufficient to establish the existence of a pregnancy-neuroretinitis, I want to give clinical notes of the two cases recently observed, with special reference to the methods of diagnosing their toxic origin.

CASE 4 —*History.*—Feb. 20, 1908, I was consulted by a lady, 35 years of age, from the South, for blindness of the left eye. She was the mother of five healthy children. In November, 1907, when she thought herself pregnant, she had, from some cause which could not be satisfactorily determined, a hemorrhage, which was diagnosed as a miscarriage. She made a prompt recovery. The December menstrual period was shorter than normal, and that in January was missed. Her own conclusion was that she had become pregnant shortly after her menstruation in the first week of December, and the usual appearance of morning sickness confirmed her opinion. In all her previous pregnancies she had been unusually well, but in this she had not felt well, with inclination to avoid exertion, etc. As nearly as she could place the date, her first eye symptoms had appeared on January 8, when she noticed that the lower field of vision was obliterated. She was sure that this was confined to the left eye. In a day or two this cleared up, but after an equal interval she became conscious that the left eye saw poorly, and soon sight was lost altogether. She consulted a local oculist, who correctly diagnosed neuroretinitis. Mercurial treatment had been without avail. The right eye was normal.

Examination—I found extensive retinitis, with hemorrhages and large exudates over the entire fundus. There was also considerable swelling of the papilla. The veins were tortuous, thrombosed, broken in places, and there was no difficulty in determining that a venous thrombosis was at the bottom of the neuroretinitis Syphilis was absolutely excluded. There was no reason to think that brain tumor or intracranial inflammation was the cause. Yet I felt that the salvation of the right eye, if possible at all, demanded discovery of the underlying cause of the thrombosis In this connection I recalled Williams' work on toxemic vomiting of pregnancy.

Secondary results of the toxemia, which Williams claimed produced this condition, were found in the central nervous system, and I wondered if it were possible that, without the stage and symptoms of this sort of vomiting, serious nerve lesion might exist. I sent the patient to the University of Maryland Hospital for examination. Dr. Bull, of New York, to whom I submitted the history, agreed that this was the most promising line for investigation. While the urinary examinations were in progress, with the aid of Dr. Friedenwald, who saw the case with me, the literature was searched with the results already outlined.

The line of investigation may be best given by quoting from a paper on the Toxemic Vomiting of Pregnancy by Williams.[13] He first divides the subject into three varieties—neurotic, reflex and pernicious vomiting. The neurotic is often hysterical and when correctly diagnosticated can be controlled by suggestion and various simple means. Reflex vomiting is due to some malposition or other lesion connected with the pelvic viscera, and is subject to amelioration, when the toxic variety is excluded. But physical examination, to determine a reflex origin, chemical, to decide toxic origin, are needed before the neurotic variety can be accepted as the diagnosis. He says: "The urine, while diminished in amount as the result of scanty intake of fluids, does not contain albumin or casts until shortly before death, and may apparently present a normal amount of urea, as determined by the Doremus method, so that its casual examination gives no clue to the gravity of the condition. In reality, on the other hand, more detailed chemical examination at an early period reveals changes which are indicative of a profoundly altered metabolism. These consist of a decided decrease in the amount of nitrogen excreted as urea and a marked increase in the amount put out as ammonia. Accordingly, while the total nitrogen output may be practically normal, the percentage of nitrogen eliminated as ammonia is greatly increased, and this so-called ammonia coefficient, instead of being 4 or 5 per cent. as in normal pregnancy, may rise to 20, 30 or 40 per cent. . . . In my experience, if the latter (i. e., the ammonia coefficient) exceeds 10 per cent., the diagnosis of toxemic vomiting should be made, and the pregnancy immediately terminated, as there is no likelihood that the process can be checked by therapeutic measures, if it once leads to the production of the characteristic hepatic lesions."

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[9] Ann d Oculistique 1904

[10] Bull de la Soc d Obstet, 1904, 4, 180

[11] Des Nevrites Gravidiques Par Thes, 1905.

[12] Graefe Saemisch, p 184

[13] Am. Jour. Med Sciences, September, 1906.

The urine of my patient was subjected to such examination. The daily output was measured, tests for albumin, sugar and casts were made daily, and the urea and ammonia estimated quantitatively. At no time was there a trace of albumin, or sugar, and once the examiner, Dr. Adler, of the University staff, found, as he thought, a few hyaline casts. For the first three days the output was only 21, 19 and 23 ounces. Forced intake of water made very little alteration. The total urea output during these days, from February 22 to 29, varied from 4.7 to 5.5 grams, while the ammonia coefficient was persistently 14 to 15 per cent. In a word, urinalysis gave exactly what Williams had described as the diagnostic basis of pernicious vomiting. Yet there was very little nausea and no vomiting. But there was a destructive neuroretinitis, dependent on venous thrombosis, and thrombosis is a recognized result of *pregnancy* toxemia.

I had little *hope of improving* the left eye, but, after consultation with Dr. Friedenwald and Dr. L. M. Allen, I advised premature delivery as the best method of safeguarding the right eye. This was accomplished by Dr. Allen on February 29. Recovery was uneventful. Dr. Allen thought the fetus indicated a pregnancy of at least three and a half months, which throws some doubt on the supposed miscarriage in November.

There was on March 5 a urinary output of 80 ounces, with 13.75 grams of urea. Since then the daily output has not fallen below 93 ounces per day, with excretion of urea varying from 7 to 13 drams. This is still below normal, but three examinations of the ammonia coefficient show 8.3 per cent., 5.6 per cent. and 6.1 per cent. The patient has improved generally, and it is worthy of note that from having in the left eye no light perception or pupillary reaction before delivery, both are now present in certain parts of the field. Incidentally, I may add that when I dilated the left pupil for ophthalmoscopic direct examination I found at the foveal region numerous spots which I would not have hesitated to attribute to albuminuria, but at *no time* was *it* present.

CASE 5.—*The patient* was 22 years of age, in her second pregnancy. I saw her through the courtesy of Dr. Williams. She was admitted to Johns Hopkins Hospital February 5. The history shows persistent vomiting from February 5 to 17. Rectal nourishment was employed. Slight jaundice on February 16. On the 7th the ammonia coefficient was 36 per cent. On the 10th it was 20 per cent., at that time still more than double the amount on which a diagnosis of pernicious vomiting could be made. I do not know why Dr. Williams did not operate then, but he postponed doing so until the 17th. On the 16th the ammonia coefficient reached 40 per cent., and the next day the uterus was emptied. Ammonia output continued high, and the patient was intensely septic for several days. The ammonia output fell steadily, reaching 11 per cent. on March 9.

The day of first involvement of the eyes is not given, but on February 28 it is stated that the patient "could just barely count fingers when the eyes were worst." On March 2 Dr. R. L. Randolph found hemorrhagic neuroretinitis and large hemorrhages in both eyes, especially in the left eye. Exudates were scattered throughout the retinæ. On March 7 Dr. H. M. Thomas found definite symptoms of multiple neuritis, into which I need not enter for present purposes. Life was almost despaired of, but the woman has survived, and when I saw her on March 10 she seemed to have good promise of preserving both life and vision. The exudates were nearly absorbed, and so were the retinal hemorrhages. The nerves and retinæ showed no special abnormality, and there was good pupillary reaction. She saw objects in the yard and counted fingers at ten feet.

SUMMARY.

Apart from the various nervous symptoms incidental to pregnancy, which often affect the eye functions, there are four serious ocular manifestations seen more or less frequently during pregnancy or after parturition. These are: (1) The so-called uremic blindness, which is usually seen in connection with eclampsia. (2) What has always been termed the albuminuric retinitis of pregnancy. These are the most common complications. Rarer forms are (3) loss of central or peripheral vision, due, so far as symptoms point, to a retrobulbar neuritis, and (4), a form of neuroretinitis, not essentially suggestive of the albuminuric type, but showing numerous retinal exudates and hemorrhages. The clinical symptoms of these conditions are reviewed, and the classes are studied from the standpoint of recent pathological investigations in the obstetrical field. There is, in view of these investigations, doubt as to whether the term uremic should be applied to the blindness occurring in connection with puerperal eclampsia. The same is true regarding the renal origin of what is termed the albuminuric retinitis of pregnancy. There is good reason to think that both the renal and ocular complications are manifestations of the same process—a toxemia. The basis for this is set forth in the paper.

The third and fourth varieties of ocular complications of pregnancy are also, doubtless, the results of pregnancy toxemia, a toxic neuritis or toxic thrombosis probably being the active factor in causation.

DISCUSSION.

DR. CHARLES STEDMAN BULL, New York, said that modern pathology now taught that a number of ocular conditions, such as the amblyopia, occurring from excessive hemorrhage, or the sudden lighting up of latent syphilitic lesions, hitherto attributed to the pregnant state, were not due directly to pregnancy as a cause, but rather to the liability to disease induced by the lessening of the patient's powers of resistance. In certain other ocular conditions occasionally encountered in the pregnant woman, of serious prognostic significance both to vision and to life, Dr. Bull said that recent pathologic investigations made the relation of cause and effect practically certain. He believed it to be still an open question whether the so-called uremic amaurosis, or sudden and complete blindness without opthalmoscopic lesion, usually confined to eclamptic cases, was really uremic and actually dependent on derangement of organic kidney structure and function.

In the hemorrhages, and the exudative and degenerative changes in the retina occurring in connection with albuminuria.. designated as the albuminuric retinitis of pregnancy, Dr. Bull said, the prognosis as to the vision and the life of the patient depended on the duration of gestation. By the induction of premature labor a better prognosis as to the ultimate vision might be given. With the forced termination of pregnancy, the inflammatory process in the retina would subside and good vision might be restored, provided the inflammatory process had not lasted long enough to cause the secondary degenerative changes in the retina. In the retinitis of pregnancy, he said, the loss of vision appeared slowly and occurred chiefly in primiparæ and in the latter half of pregnancy. There was no contraction of the visual field, either for form or color. In subsequent pregnancies mild recurrences might be the rule.

Retinitis gravidarum, so-called, Dr. Bull said, appeared in the "pregnancy kidney" in from 1 to 20 per cent. of the cases. Unless labor were not induced, the majority of these patients, if they lived, would be permanently blind; and this persistent loss of vision, he said, pointed to the existence of some complication, such as detachment of the retina or atrophy of the optic nerve. Modern pathologists did not regard the kidney as the only pathway from the uterus to the eye. In fact, from the teachings of recent pathology, it seemed improbable that pregnancy could cause a real nephritis. Dr. Bull said that the kidney in pregnancy might be affected by lesions but they seemed to stop short of actual nephritis. It was a lesion of the renal epithelium which underwent a fatty degeneration. The "pregnancy kidney" should be regarded as a mild product of toxemia. The eclampsia, the nausea and vomiting, and the sudden partial or complete blindness, he said, must all be regarded as the results of an unknown toxic substance circulating in the blood, and not of the kidney lesion. It had been found that in these cases the liver was far more likely to be affected than the kidneys. Such a toxic substance might easily affect the optic centers also. He said that it was, therefore, incorrect and unscientific to speak of the albuminuric retinitis of pregnancy, for it did not exist unless the kidneys had previously showed the existence of interstitial nephritis.

So long as the blindness or retinitis of pregnancy was regarded as always associated with albuminuria and interstitial nephritis, doctors would run the risk of sacrificing eyes by not insisting on the induction of premature labor.

Dr. Bull added that if to regard a toxemia as the basis of all the lesions shown in the charts accompanying Dr. Woods' paper, Dr. Woods was correct in his explanation of them. For instance, when the chart showed a total obliteration of half of the field, the lesion was probably a thrombotic process. When the chart showed the preservation of a quadrant, the case was probably one of toxic neuritis of the optic nerve, certain fibers ultimately escaping, while others were destroyed.

Dr. W. C. Posey, Philadelphia, referred to a paper written by him in conjunction with Dr. John C. Hirst, of Philadelphia, entitled "The Importance of an Ocular Examination in Pregnant Women Manifesting Constitutional Signs of Toxemia," and published in The Journal March 14, 1908, l, 865-868, which described certain ocular lesions which might arise in pregnancy as a consequence of a toxemia other than albuminuria. It was stated that this, a typical and often obscure form of toxemia, manifested itself in early pregnancy by pernicious vomiting, later in persistent headache, failing vision, muscæ volitantes, epigastric pain and restlessness. Repeated examinations of the urine for albumin being negative, Dr. Posey said the obstetrician was thrown off his guard, and viewed the symptoms as local and of no particular import until convulsions occurred. He cited a case in which the patient, a young primipara, developed dimness of vision in the fourteenth week of gestation, an aching fulness in the back of the head having been present some weeks previously. The ophthalmoscope revealed pronounced neuroretinitis in both eyes, the blood vessels being full and tortuous, and a few small rounded fluffy lymph extravasations were found in the region of the disc. There were no hemorrhages. The urine was free from albumin. Active eliminative treatment was essayed, but the general and local signs of toxemia disappeared only after abortion had been successfully induced.

Dr. Posey agreed with Dr. Woods that a toxemia other than that of albuminuria might provoke ocular changes during pregnancy. The importance of an ocular examination in all doubtful cases, he said, could not be overestimated, as the detection of changes in the eye-grounds, even without the presence of albumin in the urine, should lead to the adoption of a line of treatment which might be the means of saving the life of the patient.

Dr. Casey A. Wood, Chicago, remarked that Dr. Woods had very properly passed lightly over one of the exceptionally rare sequelæ of pregnancy, namely, that form of metastatic panophthalmitis described by Hirschberg many years ago. Dr. Wood then read a report of a case of this septicemia which he had had. He added that the patient recovered as far as the general condition was concerned, and that the case differed from the great majority of cases published by Hirschberg and others, in the facts that the patient survived, and that the condition was bilateral.

Dr. E. C. Ellett, Memphis, Tenn., mentioned two cases bearing on some of the points made by Dr. Woods. He said that in November, 1907, he had been asked to see a patient aged 35, the mother of three children. In each of the two first pregnancies she had suffered with a neuritis of the branches of the brachial plexus and toothache. She had had several sound teeth extracted for relief of the latter symptoms, without effect. Relief followed delivery. She had been delivered of a third child two weeks before Dr. Ellett saw her. In the early months of this pregnancy she again suffered from brachial neuritis, which disappeared. The urine was last examined two weeks before confinement, was of normal specific gravity, and contained no albumin. On the day of the confinement she was seen at 8 o'clock by the physician, and complained of reduction of vision to perception of light. She was then in labor. The abdomen was unusually distended, so that no fetal outlines could be distinguished. Delivery at about 10 o'clock was followed by the discharge of a considerable quantity of dark blood and clots, but no active bleeding. For the first twenty-four hours there was absolute suppression of urine. In the next twenty-four hours not more than an ounce of urine was passed, and this was highly albuminous. After this the secretion increased, and the albumin lessened. Two weeks after confinement Dr. Ellett found vision practically normal, fields normal, eye-grounds normal except as to color, which was affected by the intense anemia from which the patient still suffered. The urine was normal in quantity and specific gravity and contained no albumin. It was not examined otherwise or microscopically at any time. In February, 1908, it was proposed to do a curettage for an endometritis. Chloroform was administered, and the patient died on the table from the anesthetic before the operation was begun.

The second patient was seen in 1902. Three months previous to Dr. Ellett's examination she complained of a sudden blurring of vision, worse in the left eye. Nine years previously, during a pregnancy and for six months after delivery, she had had uremic symptoms and impaired vision. She had recently been told by a very competent abdominal surgeon, who had seen her at intervals during this time, that she was well of her kidney trouble. She had postneuritic atrophy of both optic nerves, with slight impairment of central vision, and while under Dr. Ellett's observation the fields, at first normal, in two years became markedly hemoptic. The urinalysis showed specific gravity 1.003, no albumin, no casts; all the organs were normal. The patient took strychnin at Dr. Ellett's advice and with the consent of a colleague, almost all this time. In April, 1905, she saw Dr. Ellett's colleague on a Saturday, and he advised stopping the strychnin. She died suddenly the following Tuesday.

Dr. Ellett said that the evidences of toxemia were plain in both of these cases. In case one, the brachial neuritis could not so readily be explained on any other ground. *In both cases* he believed that an enfeebled and degenerate heart muscle must have resulted from the toxemia, and that this muscle suddenly gave way, in one case under the depressing *influence* of chloroform, and in the other when the accustomed stimulant was withdrawn.

Dr. Arnold Knapp, New York, said that some of Dr. Woods' cases corresponded to the group he had reported last year before the American Ophthalmological Society, in which there was an optic neuritic atrophy. This was associated with the symptoms now taken to mean toxemia. Further manifestations of this condition were shown in the analysis of the urine in which a diminution of the nitrogenous element, a disturbance of the nitrogen ratio, was found. Dr. Knapp remarked that the findings in the urine offered a more promising field than in the case on which Dr. de Schweinitz had just reported. As to the form, neuroretinitis with hemorrhages, it seemed to Dr. Knapp that the cases which he observed were associated with sepsis and that it was not possible to say that the condition was not due to the septic state, especially as, according to the obstetricians the toxemia predisposed to sepsis and the association of the two conditions seemed not unusual

DR HARRY FRIEDENWALD, Baltimore, said that he had had an opportunity of observing several patients who had recovered from eclampsia but were blind for some hours or days after delivery In one of them the recovery of vision was so interesting that he thought it worthy of mention in this discussion He remarked that it was generally assumed that the visual impairment in eclampsia was due to the toxic effects upon the cerebrum In this patient the vision gradually returned, but there was at first a very marked central scotoma, it was the periphery of the field of vision in both eyes that recovered first and only after several days did central vision improve and gradually return to normal Dr Friedenwald assumed that in this case the toxic effect was on the optic nerve and not on the cerebrum

DR ROBERT RANDOLPH, Baltimore, agreed that the proper course to pursue in the treatment of this class of cases was to induce premature labor where it was evident that the integrity of the retina is in danger He felt that one would probably be justified in believing that the retinal changes of pregnancy were due to the toxemia of pregnancy and not to renal disease, if in the majority of cases of retinitis observed in pregnancy no albumin were found in the urine, but such, he said, was certainly not the case Ten years ago he reported five cases of albuminuric retinitis in pregnancy, all with marked ophthalmoscopic pictures, all had albumin in the urine and in two the urine was loaded with albumin In going over the literature at that time Dr Randolph noted that all who reported on cases of this character had found more or less albumin in the urine Since then he had seen two cases of retinitis albuminurica of pregnancy and in both cases examination of the urine revealed albumin and casts To his mind there was no retinal change so infallibly suggestive as the picture called albuminuric retinitis, with its flaky superficially situated specks, not necessarily arranged in the classic way in the macular region, but distributed indifferently about the retina and impressing the observer by their evidently superficial location He said that his own anatomic observations placed these changes for the greater part in the nerve fiber layer, the ganglion cell layer and internal granular layer The toxemia of pregnancy might be responsible for the eclampsia, but it should be remembered that this question of the pathogenesis of eclampsia had always been and still was a debatable one and, he said, according to Hirst at least three fourths of eclampsia cases had albuminuria Dr. Randolph remarked that recent observations had rather lessened the importance of renal disease as a cause of eclampsia, yet in by far the majority of cases of eclampsia there was demonstrable proof of renal disease This being the case one would have no more right to deny the agency of the kidney trouble in causing the retinitis than to deny the origin of the retinitis in a non pregnant individual who presented the usual signs and symptoms of a chronic interstitial nephritis Dr Randolph felt that he hardly needed to call attention to the necessity of making repeated examinations of the urine before deciding to accept or reject the diagnosis of renal retinitis Lucien Howe years ago reported a case where the typical picture of albuminuric retinitis was seen and it was not until three months later that albumin and casts were found in the urine This would suggest the possibility of this form of retinitis being occasionally a prealbuminuric sign of renal disease

Dr Randolph said that a month ago he had seen a woman whose right retina was covered with a number of soft, white, superficially located specks, and he had felt almost instinctively that he was dealing with a kidney trouble Yet examination of the urine at that time failed to reveal either albumin or casts Two weeks ago the patient's family physician, to whom Dr Randolph referred her, reported that nothing abnormal had been disclosed by repeated examinations till the last three each of which showed casts and albumin which with a high blood pressure, suggested the presence of a contracted kidney Dr Randolph remarked that Dr Woods had called attention to the fact that Dr James Bordley, Jr, had observed the characteristic feature of albuminuric retinitis in sixteen cases of brain tumor in which no albumin was found in the urine He said that the occurrence of this condition was well known but care should be exercised in drawing conclusion until the possible renal involvement had been completely excluded. Dr Randolph had recently examined two cases of brain tumor in the Johns Hopkins Hospital in both of which there were choked discs and the so called albuminuric retinitis, but in both of these cases casts and albumin were found in the urine

DR MARCUS FEINGOLD, New Orleans, said that if this classification of retinitis in pregnancy as being not the effect of the albuminuria but of the toxemia were accepted as correct, then the question would always arise in the mind of the practitioner, what to do when confronted with a case of retinitis in a patient never before examined? Could it be called a case of retinitis due only to the toxemia or a case of retinitis in a woman who had previously had nephritis? The question he said, was of great importance from the standpoint of therapeutics, in a case due to toxemia it was the physician's duty to interrupt pregnancy at once so as to stop the toxemia, in a case due to albuminuria proper the indication was not as plain he believed, because obstetricians as a rule would not perform an abortion unless the nephritis produced eclamptic symptoms Dr Feingold believed that there was justification for the more radical measures in every case He cited the case of a patient who during pregnancy became suddenly blind She consulted Dr Feingold some months after confinement and then presented a typical post neuritic atrophy with remnants of hemorrhage in the eyes Whether this was a case of albuminuric retinitis, or retinitis in pregnancy from toxemia was difficult to decide Dr Feingold advised in such a case the performance of an abortion Another patient consulted Dr Feingold for headaches He found an error of refraction but also a condition of retinitis of pregnancy He advised abortion, it was performed, and the patient recovered

DR HIRAM WOODS, Baltimore, replied to the problem outlined by the two last speakers, namely, how the diagnosis of toxic or renal origin was to be made in a case of exudative retinitis in pregnancy, or in a case of neuroretinitis without the spots thought characteristic of renal origin by saying that it was to be made by urinalysis along the lines suggested in Dr de Schweinitz' paper of the same day, and illustrated in two of the cases narrated in Dr Woods' own paper If the contention of Williams and other obstetricians was correct—that liver changes were responsible for a general toxemia capable of affecting the kidneys and nervous system alike that both were direct results of the toxic substance, and that the kidneys were not the pathway to the nervous system—then Dr Woods said the diagnosis of this toxemia became a matter of grave importance Further if the contention was correct that the urea output was so altered as to produce an excess of elimination of urea in the form of ammonia—in other words an increase in the ammonia coefficient—then there was a definite chemical line of investigation

Dr Randolph had said that in the cases of eclamptic blindness which had come under his observation, there had usually been albuminuria The point Dr Woods wished to make was that, even so, physicians were not justified in attributing this blindness solely to uremic poisoning as the text books did This form of blindness he said, was observed in the uremic convulsions of chronic nephritis, and accompanied the usual symptoms of defective elimination It was, moreover a serious symptom in the course of chronic kidney lesion but when occurring in connection with puerperal convulsions, it was but one part of a symptom complex of which convulsions were another part Owing to this frequent association with albuminuria the whole eclamptic phenomenon had been laid at the door of albuminuria Clinical observations however, had often shown the absence of albuminuria, and the subsequent course of the puerperal cases usually negatived the hypothesis of renal origin, at least the course was usually different from that in the true nephritic Again observations at autopsy showed insignificant renal changes often and more constant characteristic liver lesions These facts had led Edgar and other obstetricians away from the renal origin of eclampsia, and made them attribute the whole phenomenon to some poison of unknown nature, but, according to Edgar, not uremic. Why, then, Dr. Woods asked, should ophthalmologists persist in picking out one symptom of this phenomenon as certainly uremic, especially when the obstetricians had taught that albuminuria could also be a secondary result of toxemia?

THE RELATION OF OCULAR AND CARDIOVASCULAR DISEASE.*

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This subject, I am sure, is not new to you, but since we are learning more about it every day, a few of my personal ideas and findings may prove of interest. The estimation of blood pressure has brought about a more comprehensive knowledge of cardiovascular disease. The remote disturbances which follow this important condition, and the etiologic factors which gradually lead up to it, are now receiving much attention. It is a well-recognized fact that a man may be on "his last legs," so to speak, from cardiovascular changes, and yet feel no serious bodily discomfort. He may have, therefore, no urgent reason for consulting his physician, but may have reason to consult his oculist, and we should constantly be on the lookout for ocular evidences of these vascular changes.

The recognition of these early changes in the retinal circulation may enable us to give many years of life to a considerable number of our patients. The "optometrist" will always be incompetent to recognize these danger signals in the eye, and it is one more urgent reason why he should not be licensed to practice his would-be profession. While the ophthalmologist keeps pace with the body of the medical profession in its new discoveries, the technical knowledge and the equipment required to make a thorough examination of the urine, the blood, and an all-round physical examination of the individual goes beyond his province. He has served a most useful purpose, however, in having recognized the ocular signs which warrant such a physical examination, and has done his duty by seeing that the patient had such an examination made.

It is no disparagement to the general practitioner to say that he also is incompetent to make this examination. It has been my policy to refer such a patient to some one capable of making this all-round examination, and then send him to his physician with the full report of our findings. I must confess that my efforts have been several times thwarted by the family physician making light of the entire matter. He thumps the patient a little, listens to his heart through a few intervening thicknesses of clothing and directs him to "go about his business." A dilated heart can only be mapped out by the most painstaking deep percussion. The presence of a low blood pressure, polycythemia, and dilated, tortuous retinal veins, uricacidemia and indicanuria all point to a clear diagnosis of general venous stasis, which tends not only to shorten life, but also opens the way to many physical mishaps before the end comes. The cases I am about to report show how these mishaps may affect the eyes.

I believe it is generally accepted that high arterial pressure is a common cause of renal and arterial degeneration. It has been my observation that in chronic interstitial nephritis, with high blood pressure, where the retina is involved, the reduction of the blood pressure is all important, and that thereby several years can be added to the life of the individual (Cases 11, 12 and 13). Case 11 shows not only how life was prolonged when the patient was on the verge of uremic convulsions, but how useful vision was preserved until her death.

I have been especially impressed with the frequency with which general venous stasis was found present in many cases of degenerative ocular changes (Cases 1, 2, 3, 4, 5, 6, 7 and 9). Several of these patients I never saw again; consequently I am unable to report on the results of treatment, but they serve to show the relationship, as mentioned. If the vascular changes were not instrumental in causation, then the etiology was certainly indeterminable. At our altitude of one mile above sea level we undoubtedly see more cases of heart dilatation and venous stasis than do those living at lower levels. How much greater the relative proportion is I do not know.

It is now a recognized fact that four-fifths of the heart lesions are muscular and that one-fifth are valvular. The influence which impaired circulation, caused from a weakened heart, has on the economy is now being studied extensively. The ophthalmologist is in a position to see some of the very direct results of muscular heart lesions; he should, therefore, be thoroughly alive to the importance of this subject.

CASE 1.—*Retinal Hemorrhage, Due to Dilated Heart, General Venous Stasis and Polycythemia.*—Mrs. J. G. M., age 37, Aug. 8, 1907. Has been feeling well physically, with the exception of some shortness of breath on exertion. Two months ago she noticed a blurring of vision in the left eye, which has undergone no improvement.

Status Præsens.—The retina of O. S. is highly engorged. The veins are tortuous and greatly distended. Flame-like hemorrhages are present everywhere along the veins. The nerve head is red, outlines indistinct and somewhat swollen above.

The appearance of the fundus of O. D. is practically normal. The veins are somewhat larger than they should be. O. D. V.=20/20; O. S. V.=2/200. She was referred to Dr. E. C. Hill for physical examination, who reports as follows: Pulse, 92, sitting; 110, standing. Heart, one-half inch to left of nipple and one-half inch to right of sternum. Blood pressure, 105; 107 after exertion. Hemoglobin, 95 per cent. Red blood cells, 7,800,000. Urine, 1,027 c.c. in twenty-four hours. With the exception of a slight excess of indican and uric acid it is normal.

Treatment.—Fifteen drops tincture of strophanthus before meals, and 1/30 gr. strychnia after meals. Diet: Not more than two and one-half pints of fluid daily. Meat once daily. No coarse vegetables, such as cabbage, corn, etc. Potatoes and bread restricted. Fruit and green vegetables freely. Generally speaking, her diet is to be very simple and she must eat sparingly. Results two months later: O. S. V.=20/30. Retinal hemorrhages all absorbed. Veins more normal in size and appearance; nerve head a little muddy. Dr. Hill finds her heart normal in size. Blood pressure, 108. This lady lives in Ohio and was seen by me while on a visit to Denver, consequently our altitude had nothing to do with the production of her venous stasis.

CASE 2.—*Optic Neuritis, Associated with Exophthalmic Goiter. Dilated Heart, General Venous Stasis and Autoinfection.*—Mrs. C. H., age 31, November, 1906. History of enlargement of the thyroid gland with some exophthalmic symptoms. The enlargement has about disappeared under electropuncture. Eyes have been paining her for two years. Has had a number of transient blind spells. Vision became permanently affected eight months ago. It has gradually been growing worse. Has not been able to read for three months.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Status Præsens.—O. D. V. = fingers at four feet. O. S. V. = fingers at six inches. Left pupil larger than right, reactions for light and accommodation slow. Fields: Not enough vision to take left field; the right is contracted equally in all directions to the 5 degree line. With the ophthalmoscope, the nerve head of O. D. is swollen 5 D. No retinitis. The left nerve is almost completely atrophic. She was sent to Dr. Hill for physical examination, who reports as follows: Heart dilated to one and one-eighth inches beyond sternum and two inches beyond nipple. Blood pressure, 120. Pulse, 108. Urine, great excess of uric acid and indican. Red blood cells, 4,480,000. Patient disappeared.

CASE 3.—*Retinal Hemorrhage, Associated with Polycythemia and Autointoxication.*—Mr. B. D. S., age 44, Aug. 13, 1903. Very full-blooded, florid-looking man, who is apparently somewhat over weight. Claims to have always enjoyed good health. Is a heavy eater, but has no other dissipations. About six weeks ago noticed that vision of O. D. was poor; no improvement since.

Status Præsens.—O. D. V. = 3/40. O. S. V. = 5/6. The entire macular region of the right eye presents the appearance of numerous hemorrhages, with chorioiditis. The veins are very large and tortuous, and the nerve head is red. Sent him to Dr. E. C. Hill for physical examination, who reports that his heart is about normal, but that his red blood cell count is 8,200,000; that he is passing only about one-half the normal amount of urine in twenty-four hours, which contains a considerable excess of indican, and three times the normal amount of earthy phosphates. He advises that he drink twice as much water as he is now drinking, and that his diet be of the simplest form; that it be largely vegetable and that he be allowed only one full meal a day. He was given 10 gr. iodid of potassium, t. i. d., 1/32 gr. biniodid of mercury, t. i. d. In three months time his vision had improved to 5/15. The fundus shows a few scars. No new hemorrhages. I saw him last in February, 1906. He had O. D. V., 20/30. Almost no retinal signs of his former trouble. I had Dr. James Rae Arneill examine him physically for me. He found his blood pressure to be 135; hemoglobin, 105 per cent.; urine normal. A letter received from him a few days ago says the eye still remains well.

CASE 4.—*Retinal Hemorrhage, Associated with a Weak Heart and General Venous Stasis.*—Dr. J. M., age 53, Aug. 21, 1907. Has noticed a dimness of vision in lower field of right eye for ten days. He has been actively engaged in country practice for many years. Has no dissipations, unless it be in his eating. He is a hearty, rugged looking man.

Status Præsens.—The upper temporal quadrant of retina of O. D. is covered with flame-shaped hemorrhages. The veins are very full and tortuous. Nerve head congested. He was referred to Dr. E. C. Hill for physical examination, who reports as follows: Blood pressure, 99 sitting, and 107 after exertion; hemoglobin 90 per cent., red blood cell count, 5,350,000; heart is not dilated but degenerated and weak; urine 26 ounces in twenty-four hours; uric acid, one-third above normal daily maximum; no excess of indican.

Diagnosis.—Passive congestion.

Treatment.—Strychnia and hydrastinin hydrochlorid, and correction of his diet. Dec. 24, 1907, he reported that the vision in the lower nasal field is much improved. Is feeling well. Thinks blood pressure is higher than it was.

CASE 5.—*Recurring Retinal Hemorrhage, Associated with Dilated Heart, General Venous Stasis and Autointoxication.*—F. S. T., age 26, Sept. 26, 1905. Occupation, farm hand. Has always enjoyed good health. For the last three weeks he has seen a curtain hanging in front of left eye.

Status Præsens.—O. D. V. = 5/5. O. S. V. = 5/27. With the ophthalmoscope a membrane is seen lying in the anterior portion of the vitreous, which is fixed; also large floating pieces of membrane. The appearances are of a previous vitreous hemorrhage which is being absorbed. The fundus can not be seen. Sent him to Dr. E. C. Hill for physical examination, who reports: Blood tension, 165; heart normal; pulse, 88 sitting, 100 standing; hemoglobin, 90 per cent. The urine shows considerable excess of indican, uric acid and earthy phosphates.

It was decided to reduce tension somewhat by the use of a very simple diet, also to correct intestinal fermentation by giving him 10 grains of sulphocarbolate of sodium, t. i. d., and 3 grains of calomel once a week. A month later the vitreous was found almost clear and V. = 5/9. No fundus lesion could be found. He was told to continue treatment for another month and report. He was not seen again for nine months, when he came because of another vitreous hemorrhage, which had occurred six weeks previously. I found his vitreous full of floating membrane, and a retinal spot could dimly be seen below the macula. Dr. Hill went over him again and found his blood tension 115; heart, much dilated; no indicanuria. He was given 10 drops each of tincture of strophanthus and nux vomica, t. i. d.

Two months later Dr. Hill found his heart still somewhat dilated and had him continue the heart tonics. I found a little floating membrane in the vitreous, and that the spot below the macula was becoming atrophic. I did not see him again until two months later, when he came in with a corneal ulcer caused by the diplobacillus, which quickly healed under zinc. The vitreous is now perfectly clear and O. S. V. is 20/20. There are three spots of atrophic retina to be seen, a small spot just to temporal side of disc, a large one below the macula and a third some distance below the disc.

Four months later he came in saying that the right eye had been blurring for ten days. O. D. V. = 20/70; O. S. V. = 20/20. The vitreous of right eye contained floating membrane and no fundus details could be made out. Dr. Hill found the heart so dilated that the heart border was one and one-quarter inches to the right of the sternum and one-half inch to the left of the nipple in the sixth interspace. Pulse, 92 sitting, 105 standing. Blood pressure, 132; hemoglobin, 100 per cent. Marked indicanuria. In four days the vitreous had so cleared that a retinal spot could be seen on the nasal side of the disc. He was seen again three months later, when vision in each eye was found to be normal. The blood vessels of the retina have not the appearance of sclerosis. Dr. Hill found the blood pressure 145 mm., and heart almost normal in size.

Three months later he had another attack in the left eye. The vitreous was muddy, but there were no large pieces of floating membrane. Dr. Hill found his heart again badly dilated with a blood pressure of 115. This case illustrates the relation in a young man between vitreous hemorrhage and venous stasis, and how between attacks of the latter his vascular condition was comparatively normal.

CASE 6.—*Asthenopia, Associated with Retinal Venous Congestion, Heart Dilatation and General Venous Stasis.*—Mrs. M. A. H., age 35, Jan. 9, 1906. Complained of eyes watering and tiring for near work. Thinks vision is poor.

Status Præsens.—The vision of each eye is 5/7.5, with —.50 cyl., ax. 180°. Both nerve heads are congested, and the medium-sized veins are tortuous. I sent her to Dr. Hill for physical examination, who reports as follows: Amount of urine passed in twenty-four hours is 8 ounces, which contains a trace of albumin. No excess of indican nor uric acid. No casts. Blood pressure, 121. Heart very much dilated and leaking all around. The right border one inch to right of sternum. Hemoglobin, 95 per cent. Diagnosis, general venous stasis.

She was referred to her family physician for treatment. Results, unknown.

CASE 7.—*Conjunctival Edema, Associated with Heart Dilatation, General Venous Stasis and Autointoxication.*—Mrs. F. H. B., age 52, February, 1906. Eyes have been inflamed and in about the present condition for three months. Has worn glasses for three years. Has always enjoyed good health.

Status Præsens.—The eyes look very red and watery. The ocular conjunctiva is edematous and rolls up in front of the lid margins when winking. The palpebral conjunctiva does not appear to be affected. Sent her to Dr. Hill for physical examination and for bacteriologic examination of the ocular secretions, who reports as follows: A smear of the ocular secretions shows fatty degeneration of the epithelial cells, some ordinary staphylococci and proteus bacilli, but no diplobacilli. Pulse, 87 sitting, 90 standing. Heart, one and three-eighths inches beyond left nipple and one-half inch to the right of the sternum; the apical sounds were somewhat weak. Blood pressure, 121. Red cells numbered 6,200,000; hemoglobin about 95 per cent.; no excess of leucocytes. The urine shows an excess of uric acid and indican. He believes her eye trouble is partly due to uricacidemia, but mainly to stagnant circulation at this altitude. The treatment prescribed was strophanthus and nux vomica. Jan. 4, 1908, a letter from her stated that her eyes are better.

CASE 8.—*Asthenopia, Associated with Heart Dilatation, General Venous Stasis.*—Mr. G. M., age 42, April, 1907. Has been having so much pain in eyes and back of head that he has been compelled to stop work. His refraction was estimated to be + 1.50 W — 50 cyl., in each eye, with 20/20 vision. These glasses were ordered. In the macular region of each eye there were seen shimmering lines and irregular splotches of a yellowish color. The veins were greatly dilated and the arteries small. He obtained no relief from wearing the glasses. He was referred to Dr. E. C. Hill for physical examination, who found: Blood pressure, 111; right side of heart greatly dilated. Hemoglobin over 100 per cent. He was placed on appropriate heart tonics, and in the course of two weeks time his headache was relieved and he was able to return to work.

CASE 9.—*Episcleritis, Associated with Dilated Heart, General Venous Stasis and Autointoxication.*—Mrs. R. C. D., age 38, March, 1907. Her left eye has been subject to attacks of inflammation on the temporal side of the cornea. The eye becomes intensely injected over this portion of the globe, and is very tender and painful. The attack subsides in a few days and the eye becomes almost white; another attack follows in about a week or ten days. She was referred to Dr. Hill for physical examination who reports that she has a dilated heart, which is extended three-eighths of an inch to left of nipple and one-half of an inch to the right of the sternum. Pulse, 95 sitting, 106 standing. Blood pressure, 102. The urine shows a large excess of indican and uric acid. She was placed on strophanthus and sulphocarbolate of sodium and simple diet.

CASE 10.—*Retinal Hemorrhage, Associated with High Blood Pressure.*—Mrs. Henry W., age 72, Aug. 19, 1907. General habit, plethoric. Has no complaint to make physically. For three months she had had two spots before left eye and has been aware of a gradual failure of vision.

Status Prœsens.—O. D. V. = 20/20 W + 2.00. O. S. V. = 20/70 W + 1.75. With ophthalmoscope numerous hemorrhages are seen scattered throughout the retina of left eye. There are no hemorrhages in the right eye, but the blood vessels show strong evidences of sclerosis. She was referred to Dr. F. W. Kenney for physical examination, who reports as follows: Blood pressure, 240; heart normal; no kidney disease. This patient is still under observation. Her blood tension is still high.

CASE 11.—*Neuroretinitis, Associated with Chronic Interstitial Nephritis and High Arterial Tension.*—Mrs. M. B., age 45, Jan. 19, 1907. Has been suffering of late with severe diffused pain in head. Eyes so sore she can scarcely move them. Has been aware of a central blind spot in right eye for several days.

Status Prœsens.—O. D. V. = 20/40; not improved. O. S. V. = 20/20; not improved. With the ophthalmoscope a typical picture of albuminuric neuroretinitis, with hemorrhage, is seen in each eye. The condition was more advanced in her right eye. She was referred to Dr. E. C. Hill for physical examination, who found she was on the verge of uremic convulsions from chronic interstitial nephritis. Her blood pressure was 240. Active measures were taken to reduce the high blood pressure. When it came down to 200, her headache stopped. It was gradually brought down to 185 and 190. The neuroretinitis gradually improved. In two months time the retinal hemorrhages were all absorbed, but the striæ and spots of retinal degeneration, and the opaque sclerosed blood vessels were more marked than ever. Four months later there was scarcely a trace remaining of the retinal degeneration. Vision was 20/20 in each eye, with full fields. She died just a year after my first examination, and enjoyed a fair degree of comfort with good vision until the end.

CASE 12.—*Neuroretinitis, Associated with Chronic Interstitial Nephritis and High Arterial Tension.*—Mrs. J. I. G. age 50, March 27, 1905. Referred to me by an optician to have her eyes examined for glasses. Has little complaint to make about eyes or her physical condition.

Status Prœsens.—O. D. V. = 5/9:5/6 W + 75. O. S. = 1/200; not improved. With the ophthalmoscope a typical picture of albuminuric neuroretinitis was seen in each eye, which was more advanced in the left eye. Numerous retinal hemorrhages in both. She was referred to Dr. James Rae Arneill for physical examination, who reports that she has a dilated leaking heart, blood tension 260. Urine shows albumin and hyaline casts. I never saw this patient again. She felt well and could not believe that she had chronic Bright's disease. Much could have been done to prolong her life had she been willing to follow directions. As it was, I learned that she died after a few months, and that she became almost blind before her death.

CASE 13.—*Retinal Hemorrhage, Hemorrhagic Glaucoma and Optic Nerve Atrophy, Associated with Chronic Interstitial Nephritis and High Arterial Tension.*—Mr. H. L., age 60, Nov. 16, 1903. Vision has been blurred for ten days. Has always enjoyed good health. Has been a dissipated man as regards alcohol and tobacco. Has not drunk any during recent years.

Status Prœsens.—O. D. V. = 5/15. O. S. V. = 5/15. The field of O. D. is contracted temporally to the 5 degree line, the left is normal. The ophthalmoscope shows marked evidences of sclerosis of the retinal vessels in each eye. The disc of O. D. is cupped. In O. S. the nerve head is congested, the adjacent retina edematous, the veins engorged and tortuous, and numerous retinal hemorrhages occupy the inferior nasal quadrant. He was referred to Dr. Hill for physical examination, who reported as follows: Albumin, 1 2/5 per cent. by volume; hyaline, coarsely granular and disintegrated blood casts. Blood tension, 240. He was placed on a strict diet, and was given 3 grains sodium nitrite, t. i. d., and a pill composed of euonymus, aloes and belladonna.

Jan. 18, 1904.—Great loss of vision. O. D. = Fingers at two feet. O. S. = Hand movements. O. S. was inflamed. T + 1. Vitreous so hazy that fundus could not be seen. Iris sluggish and off color. Dr. Hill found the albumin in urine reduced to 1¼ per cent. by volume, and his blood tension was 215. The left eye went from bad to worse.

Diagnosis.—Hemorrhagic glaucoma. Enucleation. The vision of his right eye was now so poor that he could not see to get about alone. This was due to a scotoma which encroached on central vision and extended below temporally and nasally, about 20 degrees in each direction. He has been using eserin in oil in this eye, but I can not see that it has been of any service. It is doubtful if there has been, at any time, any increase of tension. For some months this eye remained about the same, and then the central scotoma increased until it occupied the entire temporal field. He has had numerous hemorrhages, but they have not caused hemorrhagic glaucoma as they did with his left eye. I saw him last in July, 1907. He had perception of light only, and numerous retinal hemorrhages were present. Dr. Hill estimated his blood tension several times, and found it to range from 135 to 145. He had a small amount of albumin in his urine. This patient is alive to-day because of the reduction of his blood pressure. His ocular mishaps were most unfortunate, and had he been seen a year or so sooner they might have been prevented.

The above cases serve to show how important are the ocular changes in pointing to the existence of cardiovascular disease. A greater number would needlessly prolong this paper.

DISCUSSION.

DR. LEWIS H. TAYLOR, Wilkesbarre, Pa., said that the profession was coming to recognize more and more the important fact that in certain cases treatment must be directed not to the eye but to the general system. It was hard for the oculist in the face of such conditions to say frankly: "This is a serious eye trouble but I am not competent to treat it." He need not say this if he were physician as well as oculist. Moreover, Dr. Taylor said it was not always convenient and sometimes not possible to refer patients to expert heart specialists.

Dr. Taylor said that he had had more cases of vascular trouble ending in retinal hemorrhage in the past two years, than ever before in a corresponding period in his whole practice. He related part of the history of a case of retinal hemorrhage. The patient was a strong, hearty man, aged 44 in 1884. He was then fitted with glasses and again twelve years later. In this year he had his first hemorrhage. Two years later the vision rose to 20/XXX some in XX in the patient's right eye, and this was now his better eye. Two years later another attack came and vision of the right eye fell to mere perception of waving hand. Subsequent hemorrhages occurred, ending in hemorrhagic glaucoma for which condition Dr. Taylor enucleated the right eye. The patient's remaining eye had had retinal hemorrhages some years before and was for some time the poorer eye. The patient had always had a full pulse, but soft. His diet was regulated. Fresh hemorrhages, however, occurred in the remaining eye at intervals of two and one years and a severe one in 1907. The patient had been treated by local and general blood-letting, regulation of life, and various medicines. Following the hemorrhage in the spring of 1907, he was practically blind through the greater part of the summer, but rallied and recovered a considerable amount of vision so that he was able to go about alone, but was never able to read. In February, 1908, a day of considerable excitement brought on dimness of the eye, but no hemorrhage was visible. The patient was at once put to bed and placed on treatment to lower arterial tension and on March 2 twenty-four ounces of blood were taken from the arm. The hemorrhages increased with great intensity, causing great pain and high tension which eserin, pilocarpin and dionin could not relieve. The anterior chamber was filled with blood and an iridectomy or sclerotomy was out of the question. Even the skin around the eye was affected with hemorrhages, extending down to the neck. The patient suffered along for a month longer being kept part of the time under the influence of morphia, having at times some improvement to be followed by subsequent hemorrhages. He finally agreed to an enucleation, but in the morning of the day fixed for operation the ball ruptured. After enucleation the hemorrhages continued and were not forcibly checked because of the pain, and because Dr. Taylor considered that it would be better for the patient's head to allow the hemorrhage from the orbit to continue. Oozing of blood, at times free, continued for nearly three weeks, checked finally by adrenalin externally and internally. Dr. Taylor said that the patient had now fully recovered his general health and rode out daily. This patient had been seen by Drs. Knapp, Bull, Risley and de Schweinitz and all had predicted apoplexy as a possibility. Dr. Taylor thought it surprising that the patient had not had a rupture of a blood vessel in the brain before this.

DR. GEORGE E. DE SCHWEINITZ, Philadelphia, said that Dr. Black's insistence on the point that early recognition of angiosclerotic changes might enable physicians to give many years of life to a considerable number of patients deserved to be emphasized. He said that it should also be remembered that even more important than the grosser changes were the early signs of cardiovascular disease, particularly the early signs of general arteriosclerosis, such as lesions of the arterial walls, alternate contractions and dilatations of the veins, indentation of veins by stiffened arteries, and later hemorrhagic extravasations, perivasculitis and silver-wire arteries. Dr. de Schweinitz called attention to still earlier indications, the curious corkscrew appearance of certain arterial twigs, notably those skirting the macula, the crinkled retinal vessels of Alleman's phraseology, the flattening of a vein in contact with an artery, resembling somewhat the appearance of a diminutive strap laid across a solid tube, most frequently evident in the inferior temporal retinal vessels, and the peculiar appearance of the nerve head; with its slightly dull red appearance, differing from a frank congestion precisely as the unhealthy flush of a cheek differs from the brighter color of the normal blush.

Dr. de Schweinitz said that the signs of angiosclerosis looked for by the general clinician—the condition of the pulse, the character of the heart sounds, particularly that of the first sound at the apex and of the second sound at the aortic area, the increased tidal wave on the sphygmogram, and the elevation of tension recorded by the sphygmomanometer—might result from numerous and varied conditions of the system, organic and nervous in origin, and not necessarily connected with arteriosclerosis. The ophthalmoscopic signs, suggestive or pathognomonic—in their earliest or in their latest stages—he said were certain evidences of local angiosclerosis and frequently of persisting high arterial tension, either of general arteriosclerosis or of its manifestations in special organs, and therefore ophthalmoscopic examination was one of the most ready clinical means for the early detection of important arterial changes. Dr. de Schweinitz believed the ophthalmoscope equal in value if not superior to any of the well-recognized methods of the detection of such a condition; and he thought its findings, unlike those of the sphygmogram and even the sphygmomanometer, diagnostic, if positive. No one, he added, was prepared to say that in the absence of ophthalmoscopic changes there must be absence also of arterial degenerative changes, but in the presence of the former, other things being equal, and local changes in the eye being excluded, the findings, if positive, were diagnostic.

DR. CHARLES H. WILLIAMS, Boston, wished to call attention to the necessity of a very careful ophthalmoscopic examination of these cases. He said that he had a case recently in which the pupils were small and there was general haziness of the vitreous so that it was very difficult to get a good view of the fundus. Under cocain dilatation, however, he found abundant hemorrhages in the retina and a large number of changes in the retinal vessels, some being obliterated and some reduced to small white lines. This patient was about to sail for Europe. Dr. Williams advised strongly against it and wrote a letter to the patient's family physician. He received an answer taking him to task for having frightened the patient.

DR. EDWARD JACKSON, Denver, illustrated the breadth of this subject and its importance to the ophthalmologist by citing the case of a man, aged 58, whose sight had been growing worse for three months, and who came with vision reduced to 4/22 and 4/12. Ophthalmoscopy showed dilatation of the veins, which were narrowed at the crossings of the arteries. Color-perception was markedly interfered with, but there was still fair perception for yellow and blue near the center of the field of vision. This patient had a blood pressure of 140 mm. Considering the condition of his veins Dr. Jackson inferred that the pressure though not absolutely low, was temporarily low for that particular individual. The patient was referred to Dr. Hill, who found marked dilatation of the heart. Here, Dr. Jackson said, was the practical point: that man was put on restricted diet and proper medicinal treatment, and in a week had improved decidedly. At the end of three months his vision was 4/5. His condition continued good until a year later when he died of some cerebral vascular lesion. Dr. Jackson said that he had seen several cases in which good vision was restored by paying attention to the temporary failure of circulation.

DR. A. R. BAKER, Cleveland, spoke of the importance to the ophthalmologist of the sphygmomanometer. Dr. Baker said that for a great many years he was able to recognize the condition of the fundus in which he had a suspicion of high blood tension. Of course, when there were hemorrhages he could speak positively, but when he could simply say that there was a little tortuosity of the vessels and would urge on the patient the importance of changing his method of living, his advice was usually unheeded. Such patients often congratulated themselves on being particularly well; one, a doctor, slapped himself, and said, "There is not a healthier doctor in Cleveland." He died within the year. When this apparatus was applied to the patient's arm, and the patient was shown his definite high tension and it was explained to him that the life insurance companies would not take him as a risk, Dr. Baker said this offered a definite fact to emphasize the therapeutic measures. Dr. Baker used to try to refer these patients back to the general practitioner, but found that most of them had not such apparatus and didn't know how to use it when loaned to them. Dr. Baker said that the instrument should be used every day, and that it was not necessary to refer patients to the general practitioner for its application

Dr G F. Keiper, Lafayette, Ind , said that he had found a great deal of angiosclerosis in the young as well as the old and had come to believe that the instrument for measuring blood pressure was just as essential as the ophthalmoscope Dr Keiper thought the contention of Janeway correct, namely, that instead of the narrow cuff the broad cuff should be used, and that observations should be based on the use of the broad cuff with the mercury manometer. He added that the kind of instrument used should be recorded because there was bound to be variation of any reading of the Riva Rocci instrument in comparison with the others

Dr Melville Black wished to emphasize the importance of determining the blood pressure by actual tests. He said that it was impossible to determine it by the appearance of the retinal circulation High blood pressure or low blood pressure might cause the same appearance in the retina and one should not be positive in the belief that it was always high blood pressure, it might be as Dr. Jackson had said, low for that individual.

HEMORRHAGE INTO THE VENTRICLES.

ITS RELATION TO CONVULSIONS AND RIGIDITY IN APOPLECTIFORM HEMIPLEGIA.[*]

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PHILADELPHIA.

The question to what extent the upper motor neurons are initiative in their function must of necessity be speculative. But since the advent of the theory of definite cerebral localization for well-ascertained function, since the increase of our knowledge of the association tracts and their importance psychologically, the concept of the upper motor neuron as a free agent in initiating its own stimulus becomes more and more untenable. To-day it would seem that the normal motor impulses from the Rolandic region are set in motion from impulses from other parts of the brain transmitted through association tracts.

Now muscular movement—for example, of the right side of the body, face, arm, trunk and leg—may be volitional, in which case it can be considered reflex to psychic stimulation. It may be due to the local action of some circulating poison, either stimulating the perikaryon or its neurons directly, or rendering them so hypersensitive to afferent impulses that, whereas normally there would be no reflex action, in the hyperexcitable condition there is a discharge of motor impulse; this is probably the case in uremia. Intracranial pressure, unless very gradual, is able by direct irritation to cause a motor discharge; and intracranial pressure as well as irritative lesions acting on the right cerebellar lobe can cause stimulation of the motor neurons of the left motor cortex, as in Weber's cases.[1] Electricity applied to the motor cortex or the internal capsule is also capable of causing motor functional activity. Lastly, and from the standpoint of this work of most importance, stimulation or irritation of the high sensory system, either of their perikaryons in the optic thalamus or other basal ganglia, or of their axons in the white matter of the centrum, is in all probability capable of causing motor impulses—the pure cerebral reflex.

The subject of convulsions and rigidity in apoplectiform hemiplegia is mentioned in a casual unsatisfactory way by Déjerine,[2] Strumpell, Brissaud[4] and Leube,[5] all of whom state that these symptoms point to the rupture of the hemorrhage into the ventricles. Nowhere have I been able to find any attempt at a physiologic explanation on this hypothesis.

Before considering my cases it is necessary to deal with the question of the possibility of stimulating the axons of the upper motor neurons when they are separated from their perikaryons. Weber[1] denies this possibility in no uncertain language:[6]

> That a direct stimulation of the pyramidal fiber can cause convulsions or rigidity is against all experimental and clinical experiences

Against this *ex cathedra* dictum of Weber's I would call attention to the work of Beevor and Horsley,[7] who succeeded in mapping out the internal capsule of the Bonnet monkey and the orang-outang by means of the secondary faradic current.

Hoche, in three articles,[8] discusses experimental work that he did on the cut end of the spinal cord in criminals who had just been beheaded. He used the faradic current, and although much of his work was negative and seemingly corroborative of Weber's statement, yet in the case where he made his test with least delay after decapitation his result speaks as positively in the affirmative as Weber's in the negative. Hoch's first article[9] says:

> According to the previous accounts I had expected little action; therefore, so much the more surprising was the effect. The corpse, which was lying flat, raised both its arms, bent at the elbow-joint, and with clenched fists, up in the air, the thorax raised itself in inspiration (so that with repeated stimulation the stump of the neck began again to bleed, due to the pump-like action of the thorax) and both legs were in tonic extension.

Hitzig[10] called attention to the fact that the excitability of the central nervous system rapidly failed after exsanguination. This accounts, it seems to me, for many of Hoche's negative results. I have found the lateral columns of the spinal cord in exsanguinated dogs incapable of stimulation. Morat[11] says:

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June 1908

[*] From the Department of Neurology and the Laboratory of Neuropathology of the University of Pennsylvania

[1] Weber L W Gleichseitige Krampfe bei Erkrankung einer Kleinhirnhemisphäre, Monatschr f Psychiat u Neurol, 1906, xix, 478.

[2] Déjerine, J : Sémiologie du système nerveux, p 176

[3] Strümpell: Lehrbuch der specielle Pathologie und Therapie, ed 13, 1900, iii, 477

[4] Brissaud: Traité de médecine, 1894, vi, 53

[5] Leube, W : Specielle Diagnose der inneren Krankheiten, ed 6, 1901, ii, 225

[6] "Dass eine direkte Reizung der Pyramidenbahn Zuckungen oder Krämpfe hervorrufen kann, ist nach allen Experimentellen und klinischen Erfahrungen nicht anzunehmen"

[7] Beevor, Charles E and Horsley, Victor : An Experimental Investigation Into the Arrangement of the Excitable Fibers of the Internal Capsule of the Bonnet Monkey (Macacus Sinicus), Phil. Tr Roy Soc London, clxxxi B, 49 88, A Record of the Results Obtained by Electrical Excitation of the So called Motor Cortex and Internal Capsule in an Orang Outang (*Simia satyrus*), Phil. Tr Roy Soc London, 1890, clxxxi, B, 129 158

[8] Hoche, A Zur Frage der elektrischen Erregbarkeit des menschlichen Ruckenmarkes Neurol Centralbl, 1895, No 14, p 754, Neurol Centralbl, 1900, p 994; Ueber Reizungsversuche am Ruckenmarke von Enthaupteten, Berl klin Wchnschr, 1900, No 22 p 479

[9] "Nach den bisher vorliegenden Angaben hatte ich mir wenig Wirkung versprochen, um so uberraschender war der eintretende Effect der flach liegende Leichnam hob beide Arme mit gebeugtem Ellenbogengelenk und geballten Fausten in die Höhe, der Brustkorb hob sich inspiratorisch (so dass bei wiederholter Reizung, Dank der Pumpwirkung des Thorax der Halsstummel wieder anfing, zu bluten) und beide Beine geriethen in Strecktonus"

[10] Hitzig, Edward Physiologische und klinische Untersuchungen uber das Gehirn, Berlin 1904 part 1, p 23

[11] Morat, J P Physiology of the Nervous System, 1906, p. 279

Vulpian has devised an experiment on this disputed point which is decisive. In a rabbit or dog, after it has been put under the influence of ether, he lays bare the spinal cord for a length of six to ten centimeters above its lumbar enlargement: he cuts all the roots which correspond to this length (in order that he may not have to take into account the movements which would result from this stimulation by the diffusion of stimulating current). *He cuts the cord in* the most anterior portion of the region which has been laid bare and, throughout the extent of the latter, removes the posterior columns, a portion of the lateral columns, and as much as possible of the gray matter, in such a way that the anterior or anterolateral columns (according to circumstances) thus separated are only connected with the cord by their posterior extremity. If the anterior extremity of the columns isolated in this way be pricked or compressed, somersaults are provoked: that is to say, contractions of the muscles of the hind quarters of the animal and movements of the tail. If, by following the anterior fissure, the two anterior columns be separated with exactitude, the one from the other, by a longitudinal incision, it is observed, by stimulating one of them, that movements much stronger ensue in the corresponding limb than those arising in the limb of the opposite side.

Vulpian[12] gives a very similar experiment in his *"Lecons sur la physiologie générale et comparée du système nerveux,"* but I have not been able to find the original of Morat's quotation.

I have been unable to cause convulsive movements by stimulating electrically the lining of the lateral ventricles of the dog.

The pathologic material of the following cases has been generously given to me by Dr. Spiller, to whose kindness I am very deeply in debt.

CASE 1.—*Patient.*—H. J., female, aged 44, while doing her housework on the morning of Jan. 4, 1905, became faint and sat down on a chair, shortly afterward, falling to the floor unconscious.

Examination.—At the Philadelphia Hospital on the same day a right hemiplegia was demonstrated. The right upper limb was flexed at the elbow joint and efforts to straighten it met with much resistance. Both limbs on the right side could be moved but much less freely than the limbs of the left side. The patient's speech was thick and unintelligible and her answers were made in monosyllables. Her mouth was drawn to the left. In testing the reflexes it was doubtful whether any patellar tendon jerk was present on either side. Ankle clonus could not be elicited. The Babinski reflex was present. Although the patient had a tendency to stupor when brought to the hospital, yet she could be aroused and answered questions sensibly.

Clinical History.—At 11 a. m., January 15, the patient began to have convulsive attacks with unconsciousness. The convulsions began in the right side of the face, then extended to the right arm, and after that to the right leg, the head being turned to the left and the eyes to the right. These convulsive seizures lasted from three to five minutes. Later the convulsions became alternate, first on one side and then on the other. The side which was not involved remained absolutely flaccid. Rarely the convulsion involved both sides at once. The tongue was bitten frequently. The levator palpebrarum muscles, the occipitofrontalis and all the facial muscles were implicated in these convulsive seizures. At times the mouth was drawn strongly to the left but never to the right.

At 5 p. m. of this day a lumbar puncture was performed and about 15 c.c. of a reddish cloudy fluid were withdrawn. This at first dropped quite rapidly but was not apparently under much pressure. By this time the convulsions had become milder, but were still alternating on each side. The patient died January 15, the day of the onset of the convulsions.

Autopsy.—On horizontal section a large hemorrhage of recent development was found in the left lenticular nucleus It extended into the internal capsule and had broken into the lateral ventricle at its anterior end. The hemorrhage was found in both lateral ventricles but chiefly the left. The extent of the lesion posteriorly was such that it involved the entire posterior limb of the internal capsule and the posterolateral part of the optic thalamus.

The clinical history of this case would indicate that the hemorrhage was of very gradual development. The convulsions on the left side were probably due to irritation of the right motor cortex from increased intracranial pressure.

CASE 2.—*Patient.*—C. S., male, aged 50, laborer, white, was brought into the Philadelphia Hospital unconscious and without data as to past history. Soon after admission (Oct. 2, 1906) he began *having general convulsions involving all* limbs, but the left side somewhat more than the right.

Examination.—When tested between convulsive seizures the right arm would drop flaccidly when raised, but the left arm would be replaced by the patient. The notes recorded under date of October 4 state that there was present conjugate deviation of head and eyes to the right. When the right arm and leg were pricked with a pin there was no movement on the right or left side. On pricking either limb on the left side, the limb so irritated was drawn up. The patellar tendon jerks on the right side were marked + and on the left side ++. There was no ankle clonus on the right side and a quickly disappearing ankle clonus on the left. The Babinski reflex was present on both sides. The left leg tended to develop a general clonus when the tendon reflexes were examined. There were involuntary evacuations of the bladder and rectum. By testing the patient with his feeding-cup a right lateral homonymous hemianopsia seemed to be present The left pupil was larger than the right and both reacted to light.

Autopsy.—An horizontal section made through the left cerebral hemisphere, at a level just above the tenia semicircularis, showed an extensive hemorrhage entirely destroying the left lenticular nucleus at this region and breaking into the left lateral ventricle anteriorly and posteriorly and encroaching mesially on the optic thalamus. A section one centimeter below this showed the site of the hemorrhage *moved outward, the head of the caudate nucleus at this level* being uninvolved, the lateral part of the putamen being the farthest encroachment medianward on the lenticular nucleus. There was at this level a slight involvement of the posterior part of the posterior limb of the internal capsule.

CASE 3.—*History.*—J. E., male, aged 28 years, white, five weeks *prior to his admission to the Philadelphia Hospital,* Sept. 16, 1906, took a dose of quinin, he thought about fifteen grains, for "chills and fever" from which he had been suffering about one week. A "couple of hours" after this dose he felt very sleepy, lay down, became unconscious and remained so for three days. When he regained his consciousness again he was paralyzed on the left side, his speech was thick and he could not see clearly. He regained a fair amount of power in this paralyzed side. Although he had complete incontinence of bladder and rectum for one week after the attack yet it is recorded that his condition had so far improved in this respect that if he attended to himself at once when he felt the inclination he could control his sphincters. On Nov. 16, 1906, he began to have repeated convulsions. These *followed one another with irregular intermissions until* he died the same day. There is no description of the convulsions on his record.

Autopsy.—The brain bulged considerably in the right frontal and right frontoparietal regions with flattening of convolutions and obliteration of sulci. On horizontal section there was found a large hemorrhage which had in all probability started in the lenticular nucleus on the right and had torn its way *both anteriorly and posteriorly into the lateral* ventricle. The entire ventricular system, right and left, was filled with blood. The aqueduct of Sylvius and the fourth ventricle were distended and filled with blood. The anterior part of the callosomarginal region on the right had become greatly distended and had encroached on the left hemisphere. The destruction of tissue in the *right cerebrum* was very great and involved the anterolateral part of the optic thalamus. There was also some destruction of tissue in the left cerebrum, chiefly about the anterior extremity of the lateral ventricle.

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[12] Vulpian, A.: Leçons sur la physiologie générale et comparee du système nerveux, Paris, 1866, p. 360.

CASE 4.—*History.*—W. L., male, aged 52, had an apoplectic attack in November, 1903, with unconsciousness, after which he was hemiplegic on the left side. He was taken to the Hospital of the University of Pennsylvania. The unconsciousness lasted twenty-four hours, during which time there was a convulsive seizure. In June, 1904, he had another attack of unconsciousness with convulsions and after this, three similar attacks about six weeks apart. He became able to walk afterward but had only a little control over his left hand. On Aug. 8, 1905, he had about fifteen convulsions in which the right arm was in clonic spasms, preceded by a conjugate deviation of the head and eyes to the right. The convulsive condition then affected the left arm and the lower limbs. The whole body was then the subject of clonic spasms followed by a brief period of tonic contraction. Apparently the facial muscles were equally involved. On Nov. 20, 1905, the patient slipped and struck the right side of his forehead against a door. He was put to bed in a perfectly conscious state, but gradually lost consciousness. In about half an hour after he was unconscious he began having convulsions starting in the left arm and extending to the left leg, left side of the face and finally over the entire body. He had a number of these convulsions following one another in rapid succession and lasting from one-half to two minutes. At times there existed almost a tonic condition. These convulsions commenced about 1:30 p. m. and the patient died at 5 p. m. The convulsions stopped some time before death and Cheyne Stokes respiration set in.

Autopsy.—The hemorrhage probably started in the putamen of the right lenticular nucleus. Mesially it had encroached on and involved the internal capsule and optic thalamus. Posteriorly it had torn through the posterior part of the posterior limb of the internal capsule into the lateral ventricle. Externally it had torn through and completely obliterated the external capsule and was in close juxtaposition to the cortex of the island of Reil. Anteriorly it had torn through the white matter which forms the outer wall of the extreme end of the anterior horn of the lateral ventricle and had likewise passed externally, via the white matter, past the anterior extremity of the insula, to within one centimeter of the cortex of the foot of the third frontal convolution. All the ventricles were filled with blood.

CASE 5.—*Patient.*—C. H., male, aged 80, born in Germany, was brought to the Philadelphia Hospital unconscious on March 6, 1906.

Examination.—The right arm and leg were paralyzed, the face was slightly drawn to the left and the right nasolabial fold was almost obliterated. The right eye was not completely closed and offered no resistance when an attempt was made to open it. There was conjugate deviation of head and eyes to the left. The tongue in the mouth deviated to the left, protrusion, of course, being impossible. The right upper limb was flaccid but the right lower limb was spastic.

Clinical History.—At first there was right hemianesthesia but this was of only short duration, as Dr. Spiller made a note on March 7 to the effect that a pin prick was perceived in the right side of the face and in the right upper and lower limbs. By March 8, the right upper limb had become spastic. Slight involuntary jerkings in the right lower limb were also noted. The stupor was too great to make any test for hemianopsia. On March 10 the right hemianesthesia was again noted. The patient died March 11, 1906.

Autopsy.—The hemorrhage, which was in the left cerebral hemisphere was studied in three horizontal planes about one centimeter apart. The highest section was at the level of the top of the lenticular nucleus, and the hemorrhage here involved the external and posterior part of the thalamus and the white matter external to it. There was only a thin layer of white matter between the hemorrhage and the cortex of the highest part of the insula. The section one centimeter below this showed that the hemorrhage had involved the posterior half of the lenticular nucleus and had also cut the posterior two-thirds of the posterior limb of the internal capsule. In the lowest section, one centimeter below the preceding, there still remained a small hemorrhagic area involving the posterior edge of the inner portion of the putamen and also the posterior edge of the globus pallidus and destroying the posterior extremity of the posterior limb of the internal capsule and here breaking into the lateral ventricle.

CASE 6.—*Patient.*—N. B., male, aged 60, white, was admitted to the Philadelphia General Hospital, April 4, 1903. The diagnosis of his condition on admission was pseudobulbar palsy and his previous history and examination are so foreign to the subject at hand that I shall omit them, passing at once to the record of relevant facts.

Clinical History.—On Sept. 4, 1904, the patient complained of feeling bad and was apprehensive that something was going to happen to him. On September 5, the orderly noticed that the patient was trembling much more than usual when being put to bed. At 6:30 p. m. of that evening the patient had a convulsion lasting about three minutes. There were several convulsive seizures following this first and lasting about the same time, but they are not described, so the question of consciousness, location and character can not be determined. At 7:15 p. m. the patient had an attack lasting about one hour, in which the entire right side of the body was in a state of clonic convulsion, the left side remaining free from movement. During this convulsion he was unconscious, bit his tongue and frothed at the mouth. After this seizure he remained quiescent until 1 a. m., Sept. 6, from which time to 7 a. m. of the same day he had twelve convulsions.

He had, in addition to unconsciousness, conjugate deviation of his head and eyes to the left. A pin prick on either side of the face caused movement of the face, but if the limbs were pricked there was no response. Dr. Spiller's notes record that when the right upper limb was raised and allowed to fall it did so as though dead. Both upper limbs were spastic, though the right was more so than the left. The biceps tendon jerk was exaggerated in both sides. When the left upper limb was stuck with a pin there was voluntary movement, but the right, under the same conditions, exhibited no motion. Both the lower limbs were spastic, both had exaggerated patellar tendon jerks and Babinski reflex. There was persistent ankle clonus on the right but not on the left side.

Autopsy.—Examination of the brain revealed a small cortical and subcortical hemorrhage just posterior and inferior to the angular gyrus. This lesion passed inward to within a few millimeters of the lateral ventricle. The optic thalamus was uninvolved.

CASE 7.—*Patient.*—J. W., male, aged 37, white, was admitted to the Philadelphia Hospital on May 10, 1905, suffering from tabes dorsalis. His previous history and physical examination as to his tabetic trouble I shall omit.

Clinical History.—He was allowed to go out on July 4, and next day, July 5, he was brought back by the police. He had been drinking and developed that evening a right-sided hemiplegia without aphasia or loss of consciousness. Until December there was nothing of moment to record except that his hemiplegic condition was much improved. On the evening of December 12 he fell unconscious. His head and eyes were rotated toward the right. On December 14, it is recorded that the face was drawn toward the right and that the left nasolabial fold was obliterated. A weakness in closing the left eye was also noted. The tongue had a fine tremor and deviated to the right. The power in the upper extremities was diminished. The grip was much weaker in the left hand than in the right. The left upper extremity was spastic and there was complete loss of power in the left lower limb with flaccidity. He was able to move the right lower extremity freely. The Babinski reflex was present on the left side. All the other reflexes of the lower limbs were absent presumably on account of the tabetic lesion. The patient gradually lost ground and without exhibiting any additional symptoms worthy of note died on December 26.

Autopsy.—A horizontal section through the cerebral hemispheres just below the highest part of the fornix showed a hemorrhage involving the fibers which in a section lower down, if the optic thalamus and lenticular nucleus were cut, would form the posterior part of the posterior limb of the internal capsule. This hemorrhage had broken through into the lateral ventricle posteriorly. The center of this hemorrhage was evidently well above this level, possibly posterior and mesial to the roof of the body of the lateral ventricle. The posterior part of the corpus callosum was involved in this hemorrhage.

In a section one centimeter below this, there was found in the posterior part of the putamen of the left lenticular nucleus an old cyst which evidently caused the right hemiplegia. On the right side there was found a cyst the size of a kidney-bean involving the anterior part of the putamen of the right lenticular nucleus and encroaching on the external capsule.

Case 8.—*Patient.*—G. R., male, aged 77, white, born in Germany, was admitted to the Philadelphia Hospital on July 19, 1904, with the history that he had had the night before a sudden attack of unconsciousness with a left hemiplegia. There was slight deviation of the eyes to the right, the left side of the face was smoother than the right and the tongue deviated toward the left. The reflexes were all lost on the left and the Babinski reflex was present on the left and absent on the right. He could not perceive when stuck with a pin in his left upper or lower limb. He died on July 25, 1904.

Autopsy.—A horizontal section through the right cerebral hemisphere just below the corpus callosum showed a hemorrhage destroying the posterior part of the lenticular nucleus and most of the posterior limb of the internal capsule, especially its posterior part. A section one centimeter below this showed the hemorrhage extending for about one centimeter into the temporal operculum. The optic thalamus was uninvolved.

Case 9.—*History.*—I quote from two letters written to Dr. Spiller by Dr. Thomas R. Neilson, in regard to the patient, Miss H., aged 50: "I was called to see her between 9 and 10 o'clock on the evening of April 19, 1904, and found her in bed, completely unconscious. And from her brother and his wife I got the information that she had fallen down in her room some time earlier that evening. When I saw her, her condition, as well as I now remember it, was as follows: Complete unconsciousness, complete paralysis of all the extremities; no response to pricking fingers or toes with a pin; pupils did not respond to light and were moderately contracted, respiration puffing but not accelerated; pulse 84 with no marked degree of tension. The mouth was, I think, slightly drawn to the left, but I will not be positive of this. In a short time, say twenty to thirty minutes, I recollect that pricking the fingers of the left hand excited muscular contraction of that arm resulting in flexion of the elbow. I saw Miss H. a second time on April 21, at about noon; she was then unmistakably dying. Paralysis was complete, temperature elevated, pulse weak and frequent, respirations labored and stertorous. She did die that day." There was no history of convulsions in this case.

Autopsy.—I quote from Dr. Spiller's postmortem record: "A large hemorrhage was found filling the whole of the left lateral ventricle and not extending into the right ventricle; the substance of the brain was implicated in the lesion only near the anterior part of the left lateral ventricle. The attack had lasted forty-eight hours, and convulsions are said to have been absent."

Case 10.—*Patient.*—W. U., male, aged 72, white, born in England, presented a history which does not bear on the question at hand except that he had been an excessive user of alcohol and had had sugar in his urine for the past fifteen years.

Previous Attack.—The patient retired at his usual time on the night of March 14, 1905, and was found next day at noon lying at the side of his bed in a semi-conscious condition with a left hemiplegia. In this condition he was sent to the Hospital of the University of Pennsylvania.

Examination.—Dr. Spiller's notes record that there was a semi-stupor and that the left side of the face was flattened, the nasolabial fold on that side having disappeared. The eyelids on the left could not be closed as firmly as on the right. The forehead wrinkled better on the right than on the left side. The tongue deviated to the left when protruded. The masseter contracted equally well on both sides. The left upper limb fell lifeless. The patient made no movement with his left lower limb. He seemed to present a left homonymous lateral hemianopsia for when his feeding-cup was brought to him from his left side he made no attempt to take it. Sensation to pin-prick on left side was preserved. The biceps and triceps tendon jerks were not very prompt on either side. The patellar and Achilles tendon jerks were lost on both sides. The Babinski reflex was present on the left but not on the right.

Without any marked change except deepening stupor and Cheyne-Stokes breathing the patient died on March 26, twelve days after his attack. There is no record of convulsion.

Autopsy.—On horizontal section there was found a hemorrhage bounded anteriorly by a line passing through the genu of the internal capsule. Posteriorly the hemorrhage had broken through the posterior part of the optic thalamus into the lateral ventricle. The posterior limb of the internal capsule was destroyed.

SUMMARY.

Four patients (Nos. 1, 2, 3, 4) had convulsions, rupture of the hemorrhage into the ventricles and involvement of the optic thalamus.

One patient (No. 5) had rigidity, rupture of the hemorrhage into the ventricles and involvement of the optic thalamus.

One patient (No. 6) had convulsions, no hemorrhagic rupture into the ventricles but an involvement of the cortex and subcortical white matter of a sensory region.

Three patients (Nos. 7, 8, 9) had no convulsions and no optic thalamus involvement. Two of these (Nos. 7 and 9) had ventricular inundation; one of them had not.

One patient (No. 10) had no convulsion and had optic thalamus involvement. (It is but just to say that this last case was not sufficiently under observation so that it could be said with certainty that there was no convulsive action.)

My conclusions are:

1. Ventricular inundation in cerebral hemorrhage has no etiologic bearing on the convulsions or rigidity.

2. Purely tentatively and basing my opinion on the findings in these ten cases, I conclude that convulsions and rigidity in apoplectiform hemiplegia are frequently due to an involvement of the optic thalamus, or the corticothalamic sensory fibers, with the necessary proviso that enough of the posterior limb of the internal capsule remain uninjured to convey the motor impulses.

3. Convulsions and rigidity in apoplectiform hemiplegia may be caused by a sudden or rapid increase in intracranial pressure due to cerebral hemorrhage, even though the optic thalamus and the corticothalamic sensory fibers are uninvolved. In this case, as above, there must be a sufficient preservation of the motor part of the internal capsule for the transmission of impulses to the parts concerned.

4. It is altogether unlikely that pressure or chemical change acting on the motor axons of the centrum or internal capsule—these axons having been severed from their perikaryons by the hemorrhagic process—could exert a stimulating action sufficient to cause convulsions or rigidity.

DISCUSSION.

Dr. William G. Spiller, Philadelphia: It has been a question in my mind for many years whether or *not* convulsions are caused by hemorrhage into the ventricle and may be considered as indicative of this lesion. I *am glad*, therefore, that Dr. Allen has studied this subject so *carefully*. I do not believe that a hemorrhage into the ventricles always produces convulsions and I doubt whether convulsions occurring with the onset of hemiplegia may be regarded as indicative of ventricular hemorrhage. I am glad that Dr. Allen has brought out another point clearly, viz., that when the motor tract is completely cut across by hemorrhage, it is not probable that convulsions will occur. A case of this kind was presented by Dr Boehrock. A man had hemiplegia from cerebral hemorrhage, and convulsions occurred on the side on which the hemorrhage was, but not on the other. My explanation was that the motor fibers were cut on the side of the hemorrhage, and therefore convulsions occurred on the same side, but not on the opposite side, from general irritation of the brain.

DR. A. R. ALLEN, Philadelphia: In answer to Dr. Spiller's question as to the preservation of the motor tract in the cases that had convulsion: One case suffered considerable damage to the entire posterior limb of the internal capsule, which damage I think was late in the hemiplegic attack. I take it for granted that at the time the patient had the convulsions and rigidity, the hemorrhage had not been as extensive as it was found at the autopsy, that being indicated by the clinical history.

ZONULAR OPACITY OF THE CORNEA.*

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Zonular opacity of the cornea is described very briefly in the majority of text-books. Some do not mention it at all, a number dismiss it with a short paragraph, while a very few give it a page.

Nettleship contributed an article of about 25 pages on this subject to the *Archives of Ophthalmology*, in 1879, giving in detail 22 cases seen by various observers. Bock, Graefe, Usher, Best, Leber, and a few others have also investigated the subject quite extensively. The first description was given by Dixon in 1848, followed by Bowman, who went more deeply into the matter. Dixon called it calcareous film of the cornea, finding calcium carbonate and phosphate in the parts removed. Graefe named it band opacity, while Fuchs employs the term given at the heading of this paper. It has been more frequently designated as ribbon-like opacity, or keratitis, and calcareous keratitis.

Zonular opacity occurs in two forms, primary and secondary; the former in eyes otherwise normal, the latter in those blind from glaucoma, iridocyclitis or other intraocular affections. While neither form is common, the primary is much rarer than the secondary form.

It has been described as having the appearance of minute dots crowded together, "punctiform opacities," a gray stripe stretching across the cornea, most marked a little below the center, on the part exposed when the eye is open. The opacity usually begins about the same time at two points near the inner and outer corneal margins, meeting later in the middle line. Some cases have begun centrally. There is always a narrow, transparent zone about the margin.

The progress of the disease is extremely slow, usually continuing for years, although Wells saw one case develop in a few months. Sooner or later both eyes are almost certainly involved, but one may be affected quite a number of years before the other. In some cases there are spells of severe pain, while in others (probably the majority) there is no pain at all. There is no indication of ulceration, the corneal epithelium being smooth and unbroken, in the primary form.

This disease occurs principally in men and after middle age. In 14 cases tabulated by Nettleship, all but 4 patients were over 45 and only one patient was under 30.

The pathology of this affection consists in the deposit of hyaline masses and lime in the upper layers of the cornea, or, as it has been otherwise expressed, "hyaline degeneration of corneal cells that later become calcareous." Bowman's membrane may be the part first affected, and there may be also proliferation of connective tissue.

The etiology is obscure. The location of the trouble in the exposed portions of the cornea has led to belief in a local cause. But if this were true, why is it found in so few persons? Must there not be some predisposing tendency? In gouty subjects, or those with uric-acid diathesis, the nutrient fluid of the cornea, according to Leber, is supposed to be richer in lime salts and these may become deposited by evaporation. Swanzy says that in primary cases the cause of the degeneration is simply loss of vital energy in the cornea from vascular changes, attributed by Nettleship to gout, renal disorders and cardiac affections. Fuchs saw a case in a physician who had blown calomel into his eyes for years, and Toplanski met the disease in hatmakers whose eyes were irritated by flying pieces of hair. Graefe believed that, as the secondary form of this disease followed glaucoma, so the primary form was akin to the glaucomatous process or would eventually go over into glaucoma. As would be expected, these cases are made worse by atropin.

Sight has been restored or improved in some cases by scraping the cornea, the lime deposits coming away in flakes. In other cases iridectomy has proved of great advantage. May advises the use of carbonate of soda after scraping. Sellerbeck advocated the hourly use of 5 per cent. hydrochloric acid, while Nettleship tried nitric acid in one case without effect. Noyes stated that these cases rarely are benefited by any method, and Fox, in his text-book, in 1904, says treatment is of no avail. Guillery, of Cologne, has recently tried ammonium chlorid, beginning with a 2 per cent. solution and gradually increasing to 20 per cent. While his article[1] is headed "Calcareous Opacity of the Cornea," it is evident that he means opacity from lime burns, a very different thing from the subject of this paper.

The following case from my records, the only case of primary zonular or calcareous opacity of the cornea seen in 17 years of eye-work, will serve to illustrate the points of this disease. It is also worth recording on account of its rarity and the gratifying result of operative treatment. Indeed, all cases of such a rare disease, about which there is so little definite knowledge, should be reported fully.

Mr. W. W., born in England; first seen by me Feb. 23, 1897, when he was 34 years old. There was, then, a slight haziness of left cornea to the outer side, and he suffered considerable pain. He was a bricklayer and engaged at this time in the construction of sewers. On the theory that the keratitis might be malarial, he was given quinin, followed by arsenic. (De Schweinitz[2] described a peripheral annular parenchymatous infiltration of the cornea, of malarial origin, separated from the margin by a zone of clear tissue.) Our diagnosis seemed to be confirmed by the fact that the pain soon yielded to the antimalarial treatment. He was seen only a few times in 1897 and 1898, and then passed from observation for a number of years. The opacity evidently increased very slowly in extent and density.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

1. Arch. Ophth., Sept., 1907.
2. Philadelphia Polyclinic, 1895.

September 1, 1904, he returned, complaining of pain in the right eye, the vision of which was normal, but there was a faint, almost imperceptible, haze near the outer margin and rather low down. The opacity of the left eye was now very dense and covered most of the cornea, being surrounded by a zone or rim of clear tissue, very narrow, and nearly the same width in all parts of the circumference, except the upper margin, where it was a little wider. Vision in this eye was reduced to light perception only.

The opacity in the right eye progressed very slowly. Attacks of severe pain occurred at irregular intervals without a particle of redness of the ball. Tension was at all times normal. The pupil was round and responsive to light. He was given quinin and arsenic again, without any apparent effect. Analysis of urine showed no albumin or sugar. He had the appearance of being plethoric, was rather fleshy, with red cheeks. He was not a user of alcohol in any form, but was a great meat eater.

His internal treatment for a long time consisted in the alternate use of salicylate of sodium and iodid of potassium. Pilocarpin and holocain locally, with the addition of dionin a little later, seemed to modify the pain, and after a few months the attacks occurred at longer intervals and then ceased altogether. The dionin had no effect on the opacity. The cessation of pain and the long preservation of good vision led us to believe in the efficacy of the treatment. But it is more than likely that it was simply the naturally slow progress usually seen in such cases. A very weak solution of atropin was tried at the suggestion of one of my colleagues, who, however, advised its discontinuance at the next visit, noting some loss of vision. This accords with Graefe's view that atropin is contraindicated in zonular opacity. (In Nettleship's article mention is made of the use of atropin in several cases with no statement as to its effect further than that the pupils dilated readily.)

My patient was sent to Dr. James M. Ball of St. Louis, with a note asking if this were not a case of zonular or ribbon-shaped opacity, pictured and described on page 335 of his textbook. He replied that it was a typical case, and suggested an iridectomy downward and inward on the left eye. I could not see the advantage of this, as the rim of clear tissue in that direction was so very narrow. It looked to me that an upward iridectomy would be more promising, if any were done, as the rim was wider here than at any other part. But the patient was averse to any operation just then, the vision being still good in the other eye.

The faint opacity seen first in the right eye gradually extended upward and toward the center of the cornea, another band starting a few months later from near the inner margin and extending also toward the center. For a number of months the space directly in front of the pupil was not encroached on. Finally, a very faint haze appeared there, reducing distant vision from 20/20 to 20/40, where it remained for some time, falling to 20/70 for a while and then returning to 20/40. For nearly two years vision was good enough for his regular work as foreman in one of the departments of the Malleable Castings Company. But finally the opacity over the pupillary region deepened and extended a little higher, so that work had to be given up. He could not see enough to go about by himself.

Early in October, 1906, assisted by my colleague, Dr. F. A. Morrison, I proceeded to scrape off a space directly in front of the right pupil, and two weeks later made another scraping, this time assisted by Dr. W. N. Sharp, who examined some of the scrapings under the microscope, finding degenerated cells, probably hyaline, but no lime crystals. This did not flake out, as some have described it. Probably the other eye, in which the disease was more advanced, would have shown this. I regret that we did not try the effect of acids.

The scraping was followed by the use of weak carbonate of soda solution, as suggested by May, but, although we had scraped as much as we dared, there was no improvement of vision. In fact, it was temporarily made worse.

After the inflammatory reaction had subsided, he was sent to the Indianapolis City Hospital, where I did an upward iridectomy, resulting in 15/40 vision with + 6. sph. = + 2. cyl., axis 180. This enabled him to return to work and earn as much as ever. This vision has been maintained now for more than a year.

About eight months ago he was helping a fellow workman, a sufferer from trachoma, drop medicine into his eye, and accidentally infected his own left eye, fortunately not the one I had operated on. Prompt treatment with strong solutions of silver nitrate at the office, and 1 to 4,000 bichlorid solution at home, controlled this well, and the good eye has never become infected.

It is interesting to note that there has been some improvement in the unoperated eye. At one time light perception alone existed, and in November, 1906, when the other eye was operated on, there was only faint shadowy perception of large objects, not enough to enable him to get about without being led, but the sight of this eye now is 10/200. Is this due to the internal use of salicylates and iodids? Has the local treatment for the trachoma or the irritation of that disease had any tendency to clear it up? Does the operation on one eye have any effect on the other? These questions are easy to ask, but very difficult to answer. I can give no satisfactory explanation. The opacity certainly looks less dense than formerly, especially directly in front of the pupil. In one of the cases given by Nettleship, Mr. Fairlie Clarke, under whose care the patient was, thought the central clear space in front of the pupil due to spontaneous chipping away of the film.

In view of the good result in this case, and in some of the cases reported by Bowman, Walton, Graefe, Nettleship and others, the statements of Noyes and Fox about the uselessness of treatment sound strange. Possibly they had in mind only the secondary form, occurring in eyes already blind, aside from the opacity, and therefore not amenable to treatment.

In conclusion, I would emphasize the interesting features of this case, the comparatively early age at which the affection began, the rather unusual pain in the first stages and the remedies therefor, the improvement in the vision of the unoperated eye, and the gratifying result of the iridectomy in the other. These circumstances, together with the rarity of this form of the disease and the paucity of the literature, seem to justify the detailed report of this interesting case.

427 Newton Claypool Building.

DISCUSSION.

Dr. E. V. L. Brown, Chicago: So far as I know, no cases of primary zonular opacity have come to anatomic study and therefore the etiology is not clear. The secondary cases are explained on the basis of the hyalin and calcareous degeneration of the anterior part of the cornea and Bowman's membrane; many of these cases have been studied. I have sections from four or five cases and have looked them over in connection with this discussion. The main point, it seems to me, is the clearing up of the left eye. There are two possibilities. First, the gradual clearing of the infiltrate about the areas of calcareous degeneration may have taken place from the absorption of the fatty degenerated infiltration, in the manner contended for by Wossius, who has recorded the findings of fatty substance in the anterior part of the cornea; yet there was no inflammation of this eye at any time. Gradual clearing might occur without any vascularization of the cornea, but any marked change would be accompanied by some so-called inflammatory phenomena. The other cause I have thought of is also accompanied by vascular changes attendant on the trachoma, which appeared in the eleventh year of the case. There is just a possibility that these calcareous infiltrations in the anterior part of the cornea were sequestrated and thrown off just as any foreign body would be, and that enough of this took place in the central area of the cornea to allow clearing. The case was followed up for some time after improvement of vision and there has been no decrease which would seem to make this an impossible explanation. When there has been such a defect, essentially an ulcer, and the epithelium grows over it again, there is invariably the development of connective tissue between the stroma and the depressed epithelium. The exhibition of fluorescein at this time would have determined if there was an ulcer and I would like to ask if it was used at any time for the determination of a defect in the epithelium. I only suggest this as a possible means of the clearing.

Dr. L. H. Taylor, Wilkes-Barre: I have seen only one case of this kind and that not in my own practice. In this there were two bands, one in each eye; one at an axis of 45 and the other of 135 degrees. It was perfectly symmetrical, all the way of the same width, and the tissue above and below perfectly clear.

Dr. Edward Jackson, Denver: I have seen three cases of primary opacity of this kind at comparatively long intervals. The first was seen very soon after I entered practice. I saw this patient for some years and there was no change in the opacity up to death. The second one I saw once or twice at the Wills Eye Hospital and the third I have seen within the last two years. The opacity in all three was characteristic, involving the part of the cornea exposed in the palpebral opening, but showing a transparent position between the margin of the opacity and the margin of the cornea. There was no history of previous disease and no evidence of any other disease.

The last patient had noticed failing vision for seven or eight years; she had not attempted to do any reading or sewing for five years. When she came to me the best obtainable vision was 4/45. She had lived in Kansas and had been much exposed to dust for many years. The film was gray, slightly brownish and consisted of minute dots. The cornea reflex was absolutely perfect and the epithelium perfectly smooth. In all these cases I advised scraping the cornea. The first two did not submit. This one did and under holocain the film was scraped away. The central densest portion scraped away easily; it came away in flakes. Where the opacity was less dense it did not flake that way, and was more difficult to remove. The operation was done under local anesthesia and without pain, but was followed by severe pain, such as we have from abrasion of the cornea, which lasted some eight or ten hours, and gradually passed away. It was relieved a good deal by instillations of holocain. At the end of a week vision had fallen from 4/45 to 4/100. At the end of the second week, however, it began to improve, and at the end of three months the vision in one eye was 4/9 and in the other 4/12. The opacity appeared to be chiefly on the under surface of Bowman's membrane and consisted of isolated dots. I could not get any certain evidence that there was any calcium carbonate in the flakes.

Dr. F. C. Heath in answer to questions: Fluorescein was not used because the corneal epithelium was smooth, and I saw no indication for its use. There was no pannus following the trachoma. The film was grayish in color. I observed the same regularity of which Dr. Taylor speaks and the film was transverse.

Treatment of Hydrophobia in Ancient Times.—The *Tribune Médicale*, May 30, describes the old practice of immersing persons in the sea as a preventive and cure of hydrophobia, citing the legend that Euripides was saved by this means after having been bitten by a rabid dog. A number of cases are quoted from the historical records of the eighteenth century in which persons sought the sea as a preventive after having been bitten. One old chronicle comments on the death of an English lord from hydrophobia notwithstanding that he had been duly immersed in the sea: "This proves that there is no remedy for the imagination, and that people are cured less by the sea than by their imagination that they are cured." We learn from the case of a page of M. de Nevers, in the days of Henri IV., that when the thalassotherapy failed it was the practice to put a bullet through the head of the victim when the hydrophobia had declared itself. The page in question "died in peace just as they were on the point of firing a harquebus at his head."

Clinical Note

A TYPICAL CREST-SHAPED SEPTAL DEFLECTION,

WITH PRESENTATION OF SOME NASAL INSTRUMENTS.*

O. T. FREER, M.D.
CHICAGO.

In a deflected septum removed from a cadaver, the deflection was of the variety I have classified as crest-shaped (Fig. 1), because the apex of its angle of convexity consisted of a sharp, cartilaginous ridge ascending upward and backward parallel to the anterior border of the vomer, but lying about three-eighths of an inch below it. This variety of deflection I regard as the fundamental deformity in nearly all nontraumatic deviations, the anatomic condition consisting of a curving over of the incisor and superior maxillary crests and the anterior portion of the vomer into the naris of the convexity, associated with an overriding of these bony parts by an extension of the septal cartilage downward and backward, the lower limit of this cartilaginous extension forming the sharp crest referred to. It is this crest with a strip of the underlying bone which is so often sawed off, with but partial freeing of the patient's naris, while the more important obstruction due to the body of the deflection, of which the crest merely forms the sharp angle, is ignored. The cartilaginous strip mentioned is always found roughened on its inner surface where it is attached to the side of the bony septum, is present in most deviations of the nasal septum and has to be lifted off from the underlying bone before the latter can be found and resected. I regard the deviation in the bony septum as the main feature in the majority of non-

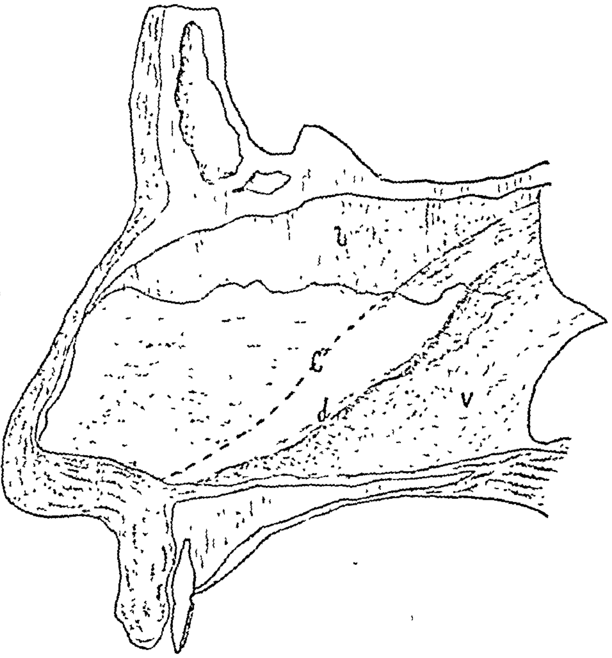

Fig. 1.—Lateral view of the nasal septum showing typical crest-shaped deflection with sharp cartilaginous crest, d; l, perpendicular plate of the ethmoid bone; v, vomer presenting convex surface of bony deflection towards observer; c, cartilage of the septum overriding the vomer downwards and backwards. The dotted line indicates the position of the anterior border of the vomer covered by the overlying cartilage. Drawn from specimen.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

traumatic deflections, a bend in the cartilage being merely secondary to it and only made the most of in most operative procedures for the correction of deviations because its position in the front of the nostril makes it a striking condition, while the bony deviation, lying deeper in the naris, is often overlooked or else ignored because the operator thinks that he has done enough in resecting the cartilage or because he hesitates to enter into the difficult removal of the bone in the depths of the nostril. Nevertheless, the bony deflection is often the worst obstacle to breathing and if left will have to be taken away at a subsequent operation.

The retractors shown (Fig. 2) are for holding the naris open during the submucous resection as I perform it, the improvement consisting of the substitution of a smooth, rounded lip for the thinner, sharper edge of the old style retractor which made it occasionally perforate the posterior flap on the side of the convexity of the deviation. In my method of operation three retractors are used for holding the nose open and I regard any form of nasal speculum as unsuitable for it.

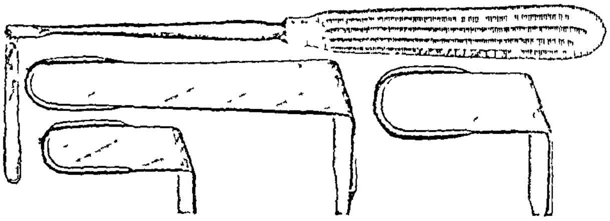

Fig. 2.—Freer's improved retractors for use in the submucous resection of the nasal septum.

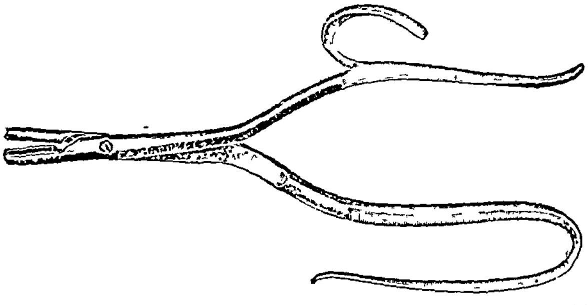

Fig. 3.—Freer's pernasal forceps for the removal of adenoid vegetations through the nose.

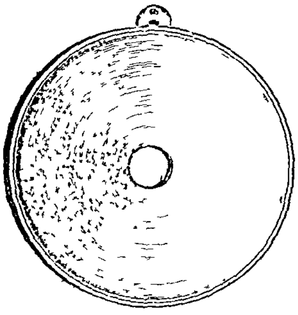

Fig. 4.—Short focus head mirror.

The pernasal forceps (Fig. 3) for the removal of adenoid growths through the nose I use exclusively for the operation. I do not employ the curette at all and postnasal forceps only where a marked deviation of the septum makes it impossible to use the direct nasal route.

There are three sizes of the forceps, the slenderer one being used on infants. The elasticity of the septum in children, their comparatively broad nasal channels and the rudimentary condition of their turbinated bodies makes the passage of the forceps easy. I do not expect these forceps to supplant the curette in popularity, but recommend them to those who wish to be sure that all adenoid masses are removed from places inaccessible to the ring knife, such as the choanæ, the posterior wall of the pharynx, or the fossa of Rosenmüller.

The short focus head mirror (Fig. 4) also shown permits a nearer approach of the eye to the ear and nose than is possible with the common longer focus laryngeal reflector found in the shops, as it has a focal length of but 8 inches. Common reflectors focus about 14 inches.

DISCUSSION.

Dr. J. F. Barnhill, Indianapolis: It has for a long time been my opinion that the curette, if properly constructed, is the ideal adenoid instrument, for with it the operator is enabled to remove, in nearly every instance, the entire mass of adenoid at one sweep. Since there is only one individual mass in any one person's throat, the term *adenoids* should be dropped for the reason that it gives the impression that there is more than one growth to remove and that, therefore, the curette or other instrument must be introduced more than once in order to be thorough. There is never but one adenoid and hence if the operator selects a curette as wide as will snugly fit into the nasopharyngeal space, and then follows out a proper technic as to the direction of making the sweep, one such sweep will cut away the entire growth and there should be absolutely no necessity of making a second or third sweep with the instrument. I will admit that rarely some portion of the growth remains in the choanæ. When such is the case an instrument such as Dr. Freer has shown would undoubtedly be serviceable in removing it.

Dr. E. Fletcher Ingals, Chicago: Dr. Freer spoke of an eight-inch reflector. I want to emphasize what he said about the necessity of having a short focus. I do not use a six-inch focus, but think an eight-inch focus essential for ordinary work. It should be remembered that the distance from the eye to the larynx is eleven inches in ordinary cases, and we have to use a reflector of eight-inch focus in order to concentrate divergent rays on the larynx. In using an ordinary light we must have this short focus. In using condensers it is better to have the lens and light so set that the rays are divergent, so that the same focal distance can be used. For daylight or parallel rays the focal distance of the reflector should be ten or eleven inches. With a three and one half inch or four-inch reflector it is quite important that the ball for the ball-and-socket joint should be only an inch and three-eighths from the center of the opening. In many that are sold it is two inches or more. The forceps for removing adenoids is essentially the same that I have used for fifteen or twenty years in removing masses of the adenoids from the choanæ, but I do not use them for the whole adenoid. I use MacKenzie's modification of Löwenberg's forceps. Dr. Barnhill suggests that with an ordinary adenotome Luschka's tonsil can be taken out with one sweep. A part of it can, but I think that the reason that there are 25 per cent. of recurrences is that the gland is not thus thoroughly removed. With this instrument the glandular tissue in the fossa of Rosenmüller is not taken out, and any portion pressing forward into the choana is also left. The forceps passed through the nose readily removes this mass and dilates any constriction of the choana. I once operated on a child, said to have adenoids, that had already been operated on by others three times for this condition. I found no adenoids but the choanæ were closed. Former operators had evidently confined themselves to scraping the nasopharynx. I had a little chisel made for operating on the septum, with a small guard that projects about 5 mm. from one side. This is about 1.5 mm. in diameter and has a small knob on the end designed to work under the mucous membranes without allowing the chisel to cut them. I have found this chisel especially useful in opening the sphenoid. The projecting guard is so small that it will readily enter the opening of the sphenoid cell and it can easily be directed with the finger in the nasopharynx when the patient is under an anesthetic. This prevents the chisel from slipping or cutting too far back and thus enables one quickly to cut away the front wall and the sphenoid cell so that any of the instruments designed for enlarging the opening may be introduced.

Dr. Otto T. Freer, Chicago: In an article read before the American Laryngological Association in 1906 and published in its transactions and the Annals of Otology, December, 1906, I fully explained the efficiency of my pernasal forceps and the ring knife. I regard the certainty of removing all of the adenoid tissue, no matter where located, in the posterior nares or nasopharynx as the chief merit of the forceps. In contrast to their thorough work the ring knife or curette in its endless forms is very apt to do an incomplete operation. I have repeatedly employed my forceps for the removal of adenoid masses which had been left behind after curettement by operators of experience and reputation. The forceps referred to by Dr. Ingals is the Ingals nasal bone forceps. It was the prototype of the pernasal forceps which I now employ, which, however, I have changed materially in form in order to adapt it to the removal of adenoid growths. Dr. Ingals spoke of his nasal bone forceps in his clinics as passed by him through the children's noses mainly in order to dilate the posterior nares but also for the purpose of removing fragments of the adenoid growths, which the Löwenberg forceps, employed postnasally by Dr. Ingals as his chief implement for the operation, had failed to take away. I regard myself as justified in claiming to be the originator of the idea of removing all of the adenoid vegetations pernasally by forceps, for which purpose I at first used the Ingals nasal bone forceps and later my present pattern of pernasal adenoid forceps, which seem to me much better suited for the purpose. The straight route through the nose employed in the operation is the one employed by Wilhelm Meyer, and its advantages lie in the greater precision obtained in operating with a straight instrument without confusing curves and in the thoroughness with which the work can be done because of the guiding presence of the index finger of the left hand in the nasopharynx, which indicates every vestige of the growths by the sense of touch and in addition protects the tubal prominences and lateral walls of the nasopharynx from injury. Adenoid masses in the fossa of Rosenmüller and posterior nares, inaccessible to the curette can be readily plucked away with the forceps. I know that the short-focus head mirrors are nothing new. Nevertheless, for some reason they have disappeared from the shops and a mirror of long focus, about fourteen inches, is the only thing obtainable and, while suitable for laryngeal work, it does not permit sufficiently close vision for the nose and ear, so I had a short-focus reflector made for that purpose. I use the Kirstein head lamp nearly exclusively in my work and hardly ever employ a head mirror.

Therapeutics

CROTON OIL.

Oleum tiglii, U. S. P. (genitive, olei tiglii), is a yellow, somewhat viscid, fixed oil, expressed from the seeds of the fruit of a small tree which grows in Southern Asia and the Philippine Islands. The seeds contain from 30 to 40 per cent. of this oil. The oil contains glycerides of various fatty acids, crotonol (the vesicating croton resin), and crotonolic (or crotonoleic) acid (closely allied to oleic and recinoleic acid). The croton resin is soluble in alcohol.

Croton oil is burning and acrid in taste, and an irritant to the skin and mucous membranes. On the skin it produces redness, papules passing into vesicles, and finally into pustules, which in healing leave white scars. Croton oil has been classed, for this action on the skin, as a "pustulent." Occasionally it may cause a general eruption resembling smallpox. Sometimes enough has been absorbed from the skin to cause purging.

When taken internally, unless very dilute, it is irritant to the stomach and intestines. It congests the mucous membrane of the intestines and increases peristalsis, causing copious stools accompanied by griping pains and a good deal of burning and irritation of the rectum and anus. It acts rapidly, a drop or two on the tongue causing a stool in one or two hours.

Large doses cause violent purging, griping, vomiting and collapse, and a few drops have been known to cause death. If it has been taken by mistake, a quickly acting emetic is indicated, with later mucilaginous, soothing drinks and a hypodermatic dose of morphin. If it has been in the stomach long enough to cause severe purging, the treatment is that of acute enteritis, and the collapse should be treated as usual, with external heat and cardiac stimulants.

Croton oil is used when a quickly acting cathartic is indicated, especially when there is difficulty in causing the patient to swallow, and a rectal injection of a cathartic is inefficient or too slow. Consequently, croton oil is used in uremia and in the coma of apoplexy where it is deemed advisable to reduce the blood pressure by purgation. It has been used in the constipation of lead poisoning and in other obstinate constipation, but it should be used with great care lest intestinal obstruction be present. It may be used at times in the constipation of maniacal patients who refuse to take other medicine, as the dose of this is so small it can be more readily administered.

Croton oil may be used externally as a counterirritant, and has been used for this purpose on the chest in various conditions, such as bronchitis, the dry pleurisies of phthisis, and as a counterirritant over the course of a painful nerve. However, it is now rarely used externally, other counterirritants being better and their activities being better controlled. To do any good, croton oil must be used in considerable strength, and then the pustulations are rather beyond control and the scars caused by such pustulation are objectionable. If it is used externally it should be diluted with two or three parts of a bland oil.

The dose of croton oil is one or two drops, and is well administered in a bread pill, made at the time, if the patient is able to swallow. If the patient can not swallow, a drop or two may be put on a little granulated sugar and this put into the patient's mouth, or, if necessary, a single drop may be placed on the back of the tongue. In conditions in which it is indicated a drop may be repeated every hour for several doses until purging takes place. It will rarely take more than two or three doses. Minute doses of croton oil are sometimes added to laxative pills to make them more active. This is inadvisable, however, as the tendency, as previously stated, of irritant cathartics to either cause inflammation of the intestines or at least increase the tendency to constipation should preclude their use.

Croton oil should not be administered to children, to debilitated patients, or to pregnant women except in desperate cases of uremic poisoning. Also gastrointestinal inflammation or peritonitis should prohibit its use.

GRUELS.

As this is the season for intestinal disturbances, the medicinal and hygienic treatment of such disturbances can not be dissociated from the feeding and nutrition. Consequently a few suggestions from the book by Alida F. Pattee may not be amiss.

FLOUR GRUEL.

Milk	1 cup.
Flour	½ tablespoonful
Salt	a speck
Raisins	1 dozen

"Scald the milk, mix the flour with a little cold milk and stir into the scalding milk. Cook in a double boiler for one-half hour or on back of stove in a saucepan. Stone and quarter the raisins, then add water enough to cover; cook slowly until the water has all boiled away; add to gruel just before serving, or eat with the raisins as desired. If there is much diarrhea the raisins should be left out."

BARLEY GRUEL.

Barley flour	2 tablespoonfuls
Milk, scalded	1 quart
Salt.	

"Blend the barley flour with a little cold milk and stir into the scalding milk. Cook in a double boiler two hours, salt to taste, and add sugar if desired; strain."

BARLEY GRUEL WITH BROTH.

Beef broth	2 cups
Barley flour	2 tablespoonfuls
Cold water	2 tablespoonfuls
Salt	1 saltspoonful

"Mix barley flour and salt with the cold water to form a smooth paste. Add gradually to the boiling stock and boil one-half hour. Strain and serve very hot.

EGG AND SHERRY GRUEL.

Egg	1
Sherry	1 wineglassful
Lemon juice	1 teaspoonful
Sugar	1 tablespoonful
Grated nutmeg.	
Smooth hot gruel	1 cup

"Beat the egg, add wine, lemon juice and nutmeg, and pour on the hot gruel."

ARROWROOT GRUEL.

Arrowroot	2 teaspoonfuls
Cold water	2 tablespoonfuls
Boiling water or milk	1 cup
Salt.	
Sugar, lemon juice, wine or brandy as required.	

"Blend the arrowroot and cold water to a smooth paste, add boiling water or milk and cook in a double boiler for two hours. Add salt, strain, and serve hot."

Both the barley and arrowroot may be administered in diarrhea.

INDIAN MEAL GRUEL.

Indian meal	1 tablespoonful
Flour	½ tablespoonful
Salt	¼ teaspoonful
Cold water	2 tablespoonfuls
Boiling water	1½ cups
Milk or cream.	

"Blend the meal, flour and salt with the cold water to make a smooth paste and stir into the boiling water. Boil on back of stove one and one-half hours, dilute with milk or cream, strain."

RICE GRUEL.

Rice flour	1 tablespoonful
Cold water	2 tablespoonfuls
Boiling water	1 quart
Salt.	

"Mix the rice flour with a little cold water to form a smooth paste, add the boiling water, and cook in a double boiler until transparent and thoroughly cooked. Add salt to taste, sweeten, and add milk if desired; strain."

OATMEAL GRUEL.

Coarse meal	¼ cup
Salt	½ teaspoonful
Boiling water	1½ cups
Milk or cream	

"Add oatmeal and salt to the boiling water, cook four or five hours in a double boiler, adding more water if necessary. Strain, and dilute with hot milk to make it of the right consistency. Re-heat and serve. Sugar and a little port wine may be added if desired."

FARINA GRUEL.

Farina	1 tablespoonful
Cold water	1 tablespoonful
Boiling water	1 cup
Scalded milk	1 cup
Salt.	

"Mix the farina with the cold water, add to the boiling water and boil thirty minutes. Add the scalding milk, taste and season properly. A little sugar may be added if desired, or an egg may be beaten and the gruel added to it."

BROWNED FLOUR GRUEL.

"Tie one-fourth pound of wheat flour into a thick cloth and boil it in a quart of water for three hours. Remove the cloth and expose the flour to the air, or heat it until it is hard. Grate from it when wanted a tablespoonful, put into a half pint of new milk, and stir over the fire until it comes to a boil, add a pinch of salt and a tablespoonful of cold water, and serve. This gruel is excellent for children with simple diarrhea."

FOR TOOTHACHE.

The *Druggists Circular*, March, 1908, gives the following suggestions for applications for toothache:

℞.	c c.		
Creasoti,			
Chloroformi,			
Olei caryophylli,		or	
Olei menthæ piperitæ,			
Olei camphoræ,			
Phenolis liquefacti, āā	5		āā, flʒi

M. et sig: Apply on cotton or pledgets of felt

Or,

℞.	gm. or c.c.		
Phenolis liquefacti	5		flʒii
Camphoræ	10	or	℥ss
Chloroformi	25		fl℥i
Olei cajuputi, q. s. ad	30		ad, fl℥ii

M. et sig: Apply on cotton or pledgets of felt.

Or,

℞.	gm or c.c.		
Phenolis liquefacti	60		fl℥ii
Mentholis,		or	
Thymolis,			āā, gr. xv
Collodii, āā	1		m. xv

M. et sig.: Jelly for toothache.

Or,

℞.	gm. or c c.		
Phenolis liquefacti	3		m. xlv
Capsici,			
Pulveris opii, āā	4	or	āā, ʒi
Olei caryophylli	8		flʒii
Chloroformi	75		fl℥iiss

M. et sig: Toothache tincture.

FOR LOCAL SWEATING IN TUBERCULOSIS

℞.	gm or c c.		
Mentholis	2		ʒss
Acidi salicylici	4	or	ʒi
Spiritus lavendulæ	200		fl℥vi

M. et sig.: Sponge the affected regions with the solution.

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[For other information see front page following reading matter]

SATURDAY, JULY 18, 1908

SUICIDE AND PROPHYLAXIS

In recent years the problem of suicide has come to be looked on as a medical question, and this makes for real understanding of the situation as well as furnishing the best possible hope of its amelioration. It becomes important under these circumstances for the physician to know just what the situation with regard to suicide in this country is. In a recent article Mr. George Kennan[1] has collected some valuable statistics that are probably the most authoritative figures on the subject at present obtainable and which, therefore, deserve consideration. Our annual suicide loss is enormous, for, according to Kennan, we are losing every year from this cause more than were killed on the Union side in the three great battles of Gettysburg, Spottsylvania and the Wilderness taken together.

The serious phase is that for twenty-five years the annual suicide rate has increased with large strides. In 1881 the rate in the United States was but 12 per 1 000 000 of the population and our total number of suicides in the whole country was only 605. Last year it had risen to 126 per 1 000 000 and our suicides numbered 10,782. If the present rate of increase be maintained—and there seems to be no reason that it should not be—we shall lose by suicide in the next five years nearly as many lives as were lost by the Union armies in battle in the five years of the Civil War. Since 1890 suicide has cost the United States over 120 000 lives. It is true that European countries have lost even more than we have, but far from being encouraging, this only adds to the blackness of the situation.

Certain features of the suicide situation deserve special attention. It has been asserted that the depression which accompanies dark days or prolonged periods of lack of sunshine is responsible for many self-murders. Three of the best authorities on the subject, however—Dr. Geck of Strasburg, who collected the statistics of about 100 000 suicides that took place in Prussia in the twenty years from 1876 to 1896, Durkheim of Paris and Dr. Gubski of St. Petersburg, who have investigated the subject more recently for the whole of Europe—assert that suicides invariably attain their maximum in June and their minimum in December. Geck found a constant rise in the suicide curve from January to the end of June and a constant decline from June to the end of the first winter month. This does not mean, however, that climate is as important an element in suicide as it might seem to be, for it is not in the torrid zone but in the temperate zone that the highest suicide rate is reached. The maximum of 172 suicides annually to each 1,000 000 of inhabitants occurs between the parallels of latitude 50 and 55 in the north temperate zone—that is, just where climate is most salubrious and least annoying.

Perhaps the most interesting phase of this question of the relation of the weather to suicide is that advanced by Prof. Edwin G. Dexter.[2] He found by a comparison between the dates of nearly 2,000 cases in the city of New York and the records of the New York weather bureau on the days for which these suicides occurred, that not only is the tendency to suicide greatest in the spring and summer months, "but it is most marked on the clearest, sunniest and pleasantest days of these months. The clear dry days show the greatest number of suicides and the wet partly cloudy days the least, and with differences too great to be attributed to accident or chance."

One other curious feature is that in times of stress the suicide rate always drops. During war time suicides are much less frequent than in peace. Other forms of stress, however, have the same favorable influence. Before the earthquake at San Francisco the suicides of that city averaged twelve a week. After the earthquake, when the whole population was homeless, destitute and exposed to hardships of every kind, there were only three suicides in three months. The decrease in the suicide rate was more than 97 per cent.

The all-important question for us is, What can be done to prevent the further increase of suicide? There are probably only two remedies practically available. The most important of these is undoubtedly the prohibition of the publication of the details of suicides, for this inevitably tends to suggest to certain weaker minds the imitation of the act described. This influence of suggestion due to the reading of the details of suicides is now generally recognized by those who have studied the question most and we feel sure is much more important than is sometimes thought. We unhesitatingly say that at least one-third of all suicides have some imitative element in them. Hence if we could secure the absolute prohibition of the publication of suicide details—the fact but not the manner might still be reported—and in addition could make it generally understood that suicide is a disease to be prevented and not a crime to be condoned or condemned, we doubtless would be able to do much to reduce the appalling increase in the suicide rate which is such a lamentable blot on recent social statistics.

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[1] Problems of Suicide, McClure's Magazine June, 1908

[2] Popular Science Monthly, April, 1901

RELATION OF EDUCATION TO PREVENTIVE MEDICINE.

The triumphs of preventive medicine are a matter of just pride to the medical profession. But while we may congratulate ourselves on what has already been accomplished, we must admit that much remains to be done. Considered in the light of what is possible, that which has been done is so far behind what might have been done as to constitute after all an occasion rather for regret, coupled with a stimulus to renewed and greater effort, than for self-gratulation.

This aspect of the question is emphasized by an extensive monograph by Dr. N. E. Ditman[1] on "Education and Its Economic Value in the Field of Preventive Medicine," in which he urges the need of a school of sanitary science and public health. The present problems of the public health and of sanitary administration involve much more than a knowledge of bacteriology or the physical causes of disease. Politics, sociology and morality are all concerned. Effective measures for removing the causes of disease can be carried out only with the support of an enlightened public opinion, and this must be formed by education. As the activities of the physician — the natural educator of the public in such matters — have heretofore been directed mainly along the lines of curative medicine, he is often ill-prepared for the new duties thrust on him by the demands of modern sanitation. This education of the public, to be efficient, will necessitate in many instances a postgraduate education of the practicing physician, and also provision for a training of the medical student in sanitary science superior to that hitherto in vogue.

As for specialization in sanitary work among the members of the medical profession, the time must come when one who undertakes the functions of a health officer will be required to show evidence, either in the form of a diploma or otherwise, of special training. In Great Britain such diplomas have now for some years been granted by nearly all the universities and are an essential prerequisite, in most instances, for appointment as medical officer of health; nor is Great Britain alone in this. Some such qualification should be required here. Again, teachers in public schools and higher institutions of learning have excellent opportunities for imparting instruction regarding health and its relation to economics and social problems, and they must form an important agency in securing the proper basis for efficient sanitary action by public officials. It is vastly important, therefore, that all these classes should receive appropriate training. This can best be afforded by a school whose instructors are in close touch with the methods and aims of sanitation as represented by the advanced thought of the medical profession.

Philanthropic and social workers also need such an education, while the ministry, the legal profession, the prospective statesman and the public in general should all receive instruction, suited to their respective needs, concerning the varied relations of disease to morals, crime, poverty, and economic questions. The needs of this class could be adequately met by special courses of instruction, both at the proposed school and in other large centers by lecturers appointed by, and under the control of, the school.

Ditman suggests that such a school should be in connection with a university having a well-equipped medical department and ample opportunities for scientific demonstration and research. It should be situated in a large city to afford practical illustrations of health department methods and of the various forms of unsanitary environment. It should provide a wide range of courses suited to the needs of its various classes of students, certain of which courses might well be required of applicants for a degree in the university. Ditman gives a list of thirty-five subjects adapted to this end, and the number of courses might easily be multiplied.

The great value of such a school will readily be admitted. There are opportunities for the establishment of several such in the United States. The economic results of the reduction of sickness and death thus made possible ought to be sufficient reason for establishing them, not to mention the higher interests served by the alleviation of suffering and the promotion of morality.

NATIONAL DEPARTMENT OF PUBLIC HEALTH.

The Democratic National Convention adopted a plank in its platform endorsing the organization of all existing national public health agencies into a national bureau of public health. The Republican National Convention adopted a similar, but less specific plank on the same subject. With both of the leading political parties committed by their platform declarations to advance legislation along sanitary lines, there should be no difficulty in securing the introduction and consideration of a bill in Congress in the near future for an adequate national health bureau or department.

Recent advances in scientific medicine; public recognition of sanitary victories, such as the stamping out of yellow fever in New Orleans and Havana and the suppression of the bubonic plague in San Francisco; greatly increased public interest in health matters, as shown by the successful campaigns for pure food and against dangerous drugs; the increasing desire of the people for trustworthy information on all health topics, as shown by recent articles in the popular magazines, all combined with the epoch-making reorganization of the medical profession, unite to form an incentive to a popular movement for a national health organization such as has not heretofore been possible. The exact manner of organization, whether as a bureau or as a department; the question of a cabinet officer versus a bureau chief; the alternatives of the immediate organization of a new department or the gradual expansion of existing bureaus, all are subordinate to the general purpose of such a movement—the conservation of the lives and health of the people. The time is ripe for action, and the people are ready to support the movement.

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[1] Columbia University Quarterly, June, 1908, x, No. 3, supplement.

To be successful, however, there must first be a careful study of all the conditions involved. It is no credit to our profession that we frequently approach legislators, urging the adoption of bills that are hastily and carelessly prepared without adequate understanding of the problems involved or of laws already existing. It sometimes happens, too, that a bill as drafted represents the prejudices or personal views of one or two men rather than the accumulated experience of the entire profession. It is time for us to realize that if we wish to be recognized as having a right to participate in law making and governing we must show ourselves worthy of such privileges. If we wish the support of law makers and law administrators, we must show that we can draft sound laws on broad principles. A bill for the establishment of a national department of health should not be drawn until accurate knowledge has been obtained regarding all national health agencies now existing, not only in this but in other countries. The practical and legal relations now existing between present health agencies, both state and national, should also be carefully studied, as well as the relation which the proposed bureau will bear to all our other executive and administrative departments. The cooperation of all existing public health and sanitary forces should, so far as possible, be enlisted. Above all, personal prejudices and animosities should be entirely discarded and the health of the public should be considered above all else.

If wisdom and tolerance be observed and careful investigation and public education precede the presentation of the bill, it will have the support of all parties and of all factions. An unprecedented opportunity now presents itself for the profession to show a spirit of broad and constructive statesmanship.

NOTABLE ANTITUBERCULOSIS LEGISLATION.

New York State has just passed a law declaring tuberculosis to be an infectious and communicable disease and providing for the reporting of all cases to the local health authorities. Its salient features comprise the free examination of sputum by the health authorities in all suspected cases; registration and the inviolability of all such records; the disinfection and renovation of premises after the death or removal of a consumptive, and the rendering innocuous of all tuberculous sputum. The physician must send to the health officer of his community a statement of the precautions he takes in a case of this disease; he must safeguard in every reasonable way those living in the same house with the consumptive patient; and for his report he receives a fee of $1.00. Should the physician fail to report, this duty devolves on the health officer, who will then receive the fee. Penalties[1] are imposed on physicians and others who fail to execute the duties required by this act.

All the measures incorporated in this law have become commonplaces of sanitary requirement, and they well epitomize the essential prophylaxis against tuberculosis. A positive finding in sputum examination places the diagnosis of the disease beyond question, but surely no physician will to-day wait for such evidence before reaching a conclusion. The disease has usually passed well beyond incipiency before bacilli are discoverable in the sputum. Of all the steps toward communal protection registration is by far the most important; no adequate disinfection or renovation of premises is possible otherwise.

This New York state law was signed at about the same time as a similar statute for the District of Columbia to which the President has affixed his signature. In preparing the New York law those now in operation in Vermont, New Hampshire and Wisconsin were carefully considered; much was derived from them, from the sanitary code of New York City, and from the new federal law. A wise disposition is here being shown by government and humanitarian bodies to make observations and concessions, dictated, as Secretary Root notes, "by enlightened judgment for the common benefit." We may confidently hope that all our states will presently have similar statutes in force.

THE HEALING OF EXPERIMENTAL TUMORS BY TRANSFUSION OF BLOOD.

There occurs occasionally on the generative organs of dogs, and transmitted by coitus, a peculiar form of tumor that is generally designated as a lymphosarcoma, but concerning the actual nature of which there has been some difference of opinion. The readiness with which it can be transplanted from dog to dog, either experimentally or through coitus, makes it seem much more like an infective granuloma than like the true malignant tumors; but most of the more recent observations seem to indicate that this growth really is a lymphosarcoma which, as the result of repeated natural implantation through coitus, has become adapted in a high degree to this method of propagation. Although this is merely a canine disease, yet its proper classification becomes an important matter because of the use to which it is being put in connection with the experimental study of tumors, along with the transplantable carcinomas of mice and sarcomas of rats. The newest observations on the transplantable lymphosarcoma of dogs, by Crile and Beebe, are of particular interest because they demonstrate a method by which these growths can be made to disappear and leave the animal immune and well.

All the transplantable tumors so far studied in laboratory animals show a tendency to spontaneous retrogression, which feature might seem to indicate that they are essentially different from the malignant tumors occurring in man which are remarkable rather for the absence of any such desirable tendencies. However, this difference is perhaps rather apparent than real, depending on the fact that spontaneous tumors developing in man appear only in individuals in whom conditions favor the formation of neoplasms, while in the experimental tumors inoculations are made into normal animals that are entirely free from any such tendency to tumor formation, and which are possessed of a certain degree of natural immunity.

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[1] THE JOURNAL A. M. A., May 30, 1908, p. 1804.

Be that as it may, it is an important fact that animals thus recovering spontaneously are immune to further inoculation with tumors, and their blood contains substances which inhibit tumor growths; these observations made by Gaylord and Clowes, and at first disputed by Bashford and Ehrlich, are now generally accepted in view of their abundant corroboration. Basing their experiments on these facts, Crile and Beebe[1] found that if an animal with progressing tumors were bled freely and then transfused with a considerably larger amount of blood from a dog immune to such tumors, the growth of the tumors was usually checked and they soon underwent complete absorption. These results were much the same whether the immunity of the dog furnishing the blood was evidenced by an insusceptibility to inoculation with tumors or was an acquired immunity manifesting itself by spontaneous retrogression of tumors that had been growing for a time. The authors consider that immunity to tumors is not strictly analogous to bacterial immunity. Nevertheless their results show that it is to some extent a blood condition which may be transferred to another animal, rendering it passively immune.

Interesting and suggestive as these experiments are, Crile and Beebe wisely refrain from any premature speculation as to their application to the treatment of human tumors, a subject that must be first approached only after a more extensive experience with animals has been obtained.

THE INDEX TO CURRENT LITERATURE.

When, in our issue for June 27, we appealed to our readers for an expression of their views with reference to the continuance of the Index to Current Medical Literature we realized that we were asking a good deal, in view of the season of the year and other factors, in calling for at least 500 replies. So also, apparently, thought many of those who wrote promptly in their anxiety to avert a threatened discontinuance, for they begged us to be content with less than the specified number of replies. It is, however, most gratifying to learn that the appreciation of the labor involved in the Index to Current Medical Literature is both widespread and deep. The number of those who have responded to date is 586—and communications are coming in every mail—and of these only nine appear indifferent or half-hearted. Practically all beg us not to think of discontinuing the index, which large numbers seem to consider almost, if not quite, the most valuable feature of The Journal. This hearty response, moreover, besides effecting its purpose of dispelling any idea of abandoning the Index to Current Medical Literature, has had the effect also of stimulating to greater effort that portion of the editorial staff on whom the responsibility and labor fall. We thank most heartily all those who have replied to our questions, especially those who have offered suggestions for improvement. These suggestions are being carefully considered, and we assure our readers that if any change is made it will be toward making the index more useful and more practical.

MEDICAL COLLEGE MERGERS.

Last week we announced the merger at Cincinnati of the Miami Medical College and the Medical College of Ohio which promises so much for the future of medical education in that city and state. This is the eleventh merger of medical colleges which has taken place in less than three years, during which time twenty-three of these institutions have united their forces, leaving nine larger and stronger ones. In Indiana five colleges have finally been welded into one, in Kansas four were merged into one, and in Kentucky four into two, while in Missouri, in Ohio at Columbus, in Minnesota, and now again in Ohio at Cincinnati, two colleges in each instance merged into one. In every instance these mergers have registered a desire on the part of the faculties for higher educational standards, and the manner in which personal interests have been set aside that better institutions might result has revealed a magnanimity, an unselfishness and a public spirit that are most encouraging and commendable. It is this spirit which shows that the medical profession of this country will not be content until medical education in the United States is second to that of no other nation. There remain several other cities having from two to five separate colleges where mergers similar to the above are being contemplated. In some of these a strong public spirit already prevails and positive action will not be long withheld. It is evident that the merging of our numerous small and poorly equipped medical colleges into a less number of well-equipped and strong institutions is the most encouraging part of the movement for higher standards of medical education in the United States.

Hot Horse Serum in Treatment of Burns.—R. Petit's communications on the efficacy of hot horse serum in local treatment of wounds have been summarized in these columns from time to time. He now announces that it is proving the best topical application for extensive burns. The *Presse Médicale*, June 13, quotes some of his case histories, showing that healing was much more rapid in the burns treated with the hot horse serum than in other burned patches on the same child treated with picric or boric acids, etc. He believes that the horse serum revives the injured cells, possibly including the nerve cells, so that they recuperate and aid in the healing process, instead of dying and generating poisons. The serum also summons the leucocytes to the spot, while its harmlessness has been demonstrated.

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[1] Jour. Med. Research, 1908, xviii, 385.

Medical News

ILLINOIS.

Free Treatment of Hydrophobia.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, requests us to announce, for the information of physicians and health officers, that in 1905 the General Assembly made provision for the care and treatment of poor persons duly certified by regular physicians to have been bitten by rabid animals, or otherwise put in danger of infection from hydrophobia, and that such persons unable to pay for treatment themselves will be cared for at the expense of the state, at the Pasteur Institute, 228 Dearborn Avenue, Chicago, the institution selected by the Illinois State Board of Health.

Chicago.

Medical College in Good Standing.—We are informed by the Illinois State Board of Health that owing to a clerical error, the College of Medicine and Surgery, Physio Medical, was omitted from the list of colleges in good standing, sent to us last week.

Chicago's Health.—According to the bulletin of the Chicago Department of Health, the city's health was never better than during the week ended July 11. The average death rate of the last ten years was 14.21 per thousand, the rate of the first eleven days of the present month was 10.88. Had the average rate of previous years obtained there would have been 928 deaths during the eleven days instead of the 710 which did occur. To the total of 510 deaths reported during the week ended July 11, violence contributed 62—a greater number than any of the diseases, consumption was second in order of highest mortality, with 57 deaths, the diarrheal diseases, 52, nephritis, 42, heart diseases, 40, pneumonia, 36, cancer and the nervous diseases, each 28. There was but one death from typhoid fever reported, as against 7 in the week preceding and 5 in the corresponding week of last year. A death from tetanus was recorded during the week, but not due to a Fourth of July injury.

Mortality of Chicago During the First Half of 1908.—According to the statistics of the Department of Health, 1,998 fewer people died during the first six months of 1908 than during the corresponding period of last year. The diseases in which the greatest improvements in the mortality rate is shown are pneumonia and pulmonary tuberculosis, the actual decrease in the number of deaths from pneumonia is 949, from tuberculosis is 174. On the other hand, deaths from diarrheal diseases in children have increased, especially in children under one year, the increase over last year being 183. June had the very low general death rate of 11.77 per thousand of population. This is 6.5 per cent. lower than the ten year average for June and 13.4 lower than June, 1907. In the last fifty years there have been but two Junes with a lower rate. The total deaths reported during the month—2,095—were 348 fewer than the preceding month and 260 less than the returns of June, 1907. Of the diseases which show the greatest reduction, pneumonia leads, with 103 fewer deaths than the preceding month and 133 fewer than the corresponding month of last year. There were 24 fewer deaths from consumption than in the preceding month and 12 fewer than the compared period of 1907. The reduction in contagious diseases similarly compared was 27 and 42. A marked increase is noted in deaths from diarrheal diseases. The 153 deaths reported during the month exceed the preceding month by 22 and the corresponding month of last year by 38.

INDIANA.

Sex Relation and Social Hygiene.—At a recent meeting of Marion County Medical Society, resolutions were adopted, setting forth that it would be wise to teach young people, with seriousness and dignity, the facts about reproduction and the almost certain evil effects of unchastity.

Itinerant Physicians.—The common council of Logansport has passed an ordinance providing for a license fee of $50 per day for itinerant physicians or traveling vendors of drugs or remedies, the violation of the ordinance to bear a penalty or fine not less than $50 nor more than $100 for the first offense, and for not less than $50 nor more than $300 for each subsequent violation.

Officers and Faculty of Medical School.—At a meeting of the board of trustees of the Indiana University, held in Bloomington June 23, the following officers and faculty for the school of medicine were selected: Dr. Allison Maxwell, dean; Dr. Edward F. Hodges, vice dean; Dr. Edmund D. Clark, secretary, Dr. John S. Barnhill, treasurer, and B. D. Meyer, secretary of the medical department. Drs. Henry Jameson, Allison Maxwell and George W. McCaskey, professors of medicine, Drs. Louis Burkhart, Samuel E. Earp, George D. Kahlo, Theodore Potter, and Albert C. Kimberlin, clinical professors of medicine, Drs. Francis D. Dorsey and Robert H. Ritter, associate professors of medicine; Dr. Frank B. Wynn, professor of medical diagnosis; Dr. William T. S. Dodds, associate professor of clinical diagnosis; Dr. Simon P. Shearer, professor of gastrointestinal diseases; Dr. L. Park Daryer, professor of pediatrics; Drs. James H. Taylor and John A. Lambert, clinical professors of pediatrics; Dr. Amelia R. Keller and Dr. Oscar N. Torian, associate professors of pediatrics; Drs. Frank F. Hutchins, Ernest C. Reyer and Albert E. Sterne, professors of mental and nervous diseases, Drs. Charles S. Neu and Robert N. Todd, associate professors of nervous and mental diseases, Drs. William H. Foreman and C. Richard Schaefer, professors of therapeutics; Dr. Thomas W. Haas, associate professor of therapeutics, Dr. John N. Hurty, professor of hygiene and sanitary science; Dr. Samuel C. Norris, associate professor of hygiene and sanitary science; Drs. James H. Ford, John H. Oliver and Miles F. Porter, professors of surgery, Drs. Edmund D. Clark, J. Rilus Eastman and George M. Wells, professors of clinical surgery; Drs. Maynard A. Austen and David Ross, associate professors of surgery; Dr. Horace R. Allen, professor of orthopedic surgery; Drs. William N. Wishard and John A. Sutcliffe, professors of genitourinary surgery; Drs. Frederic R. Charlton and Harvey A. Moore, clinical professors of genitourinary surgery; Drs. George J. Cook and John C. Sexton, professors of gastrointestinal surgery, Drs. Alois D. Graham and Thomas C. Kennedy, clinical professors of gastrointestinal surgery; Drs. Walter S. Given and Homer H. Wheeler, associate professors of gastrointestinal surgery, Dr. Alembert W. Brayton, professor of dermatology and syphilology; Drs. Albert M. Cole and E. Oscar Lindermuth, professors of electrotherapeutics and dermatology, Drs. Albert E. Bulson, Thomas C. Hood and Frank A. Morrison, professors of ophthalmology; Drs. Harry C. Parker and Frederic C. Heath, clinical professors of ophthalmology; Drs. John S. Barnhill, Lewis C. Cline, John J. Kyle, and Kemp K. Wheelock, professors of otology, laryngology and rhinology; Drs. John L. Masters, Lafayette Page and Ernest DeW. Wales, clinical professors of otology, laryngology and rhinology; Dr. Orange G. Pfaff, professor of gynecology; Drs. Thomas E. Eastman, Thomas B. Noble and Hugo Pantzer, clinical professors of gynecology; Drs. Bernays Kennedy and Robert O. McAlexander, associate professors of gynecology, Drs. John T. Davis, Sidney J. Hatfield, David Tahn, Goethe Link, and John Pfaff, associate professors of gynecology; Dr. Edward F. Hodges, professor of obstetrics; Dr. Charles E. Ferguson, clinical professor of obstetrics; Dr. Henry F. Beckman, associate professor of obstetrics; Dr. Charles S. Neu, professor of pathology; Dr. John W. Fluss, professor of anatomy; Drs. John Morris, Norman E. Jones, Walter W. Barnett, W. B. Robinson, and Charles O. Durham, associate professors of anatomy, Drs. Gustave A. Petersdorf and Charles S. Woods, professors of chemistry, and Dr. William O. Gross, professor of toxicology.

IOWA.

Personal.—Dr. H. J. James, formerly assistant physician at Muskoka Cottage Sanatorium, Canada, has been appointed assistant superintendent at the State Sanatorium for Tuberculosis, Oakdale.

Epidemic Diseases.—An epidemic of German measles is reported from Sloan.——Smallpox is reported to be prevalent in Washington Township, Atlantic County.——The secretary of the University Y. M. C. A., Iowa City, was stricken with smallpox, June 3. The building has been closed and fumigated.——Two cases of smallpox, said to be imported from Missouri, are reported in Davenport.——Rockwell City is reported to have 57 cases of typhoid fever, with 5 deaths.

Medical Society Meetings.—At the annual meeting of the Central Iowa Medical Association, held in Nevada, June 16, the following officers were elected: President, Dr. Alpheus A. Deering, Boone; vice president, Dr. John W. Bailey, Nevada, and secretary-treasurer, Dr. James C. Walker, Boone. The next meeting will be held at Boone.——At the semi annual meeting of the Iowa Union Medical Society, held in Iowa City June 23, the following officers were elected: President, Dr. L. Wallace Dean, Iowa City; vice president, Dr. William R. Whiteis, Iowa City, secretary, Dr. Alexander Crawford, Mount Vernon; treasurer, Dr. George P. Carpenter, Cedar

Rapids, and censors, Drs. Edwin Burd, Lisbon, John W. Lagrange, Marion, and Hollis W. Bender, Cedar Rapids. The next meeting of the society will be held in Cedar Rapids.——The thirty-seventh annual meeting of the Des Moines Valley Medical Association was held in Ottumwa June 18 and 19. The following officers were elected: President, Dr. Lewis A. Rodgers, Oskaloosa; vice-presidents, Drs. Frank T. Stevens, Mount Pleasant, and Charles B. Powell, Albia; secretary-treasurer, Dr. Fred W. Bowles, Ottumwa, and censors, Drs. Smith A. Spilman, Ottumwa, Henry C. Young, Bloomfield, and Clyde A. Boice, Washington. The next meeting will be held in Ottumwa.

MARYLAND.

Medical Student Dies Just Before Graduation.—William George Thomas died at Cumberland, Md., May 7, of tuberculosis, five days before his graduation from the Southwestern Homeopathic College, Louisville, aged 24.

Baltimore.

Personal.—Dr. Leo G. Scheurich, a recent graduate of the medical department of the University of Maryland, was given a banquet by the Holy Cross Lyceum and presented with a case of pocket instruments, July 9.——Dr. Cary B. Gamble has been appointed a member of the board of supervisors of city charities.——Dr. Henry Kenwood has gone to Bedford Springs, Pa., as resident physician for the season.——Dr. James H. Chestnutt of the Johns Hopkins Hospital staff was operated on for appendicitis July 10.——Former internes of the University Hospital have located as follows: Dr. G. W. Billupo, chief resident surgeon, Woman's Hospital, Baltimore; Dr. Joseph L. Valentini, Baltimore; Dr. Charles W. Roberts, southern Georgia; Dr. E. W. Glidden, Savannah, Ga.; Dr. Thomas Legg, western Maryland; Dr. Joseph A. Barry, New York; Dr. Salvador Giuliani, Viegues, Porto Rico; Dr. Rufus C. Franklin, Craymount, Ga.

MASSACHUSETTS.

Course in Psychotherapy.—Tufts Medical School announces it will add to its curriculum a course in psychotherapy, beginning October 1, in charge of Dr. Morton H. Prince and Rev. Albert E. Shields.

Alumni Meetings.—The fourth annual dinner and meeting of the New England Association of Jefferson Medical College Alumni was held in Boston, when Dr. John Q. A. McCollister, Waltham, of the class of 1856, was elected president; Dr. Angus McOdrum, Boston, of the class of 1889, secretary, and Dr. Henry J. Walcott, Concord, of the class of 1890, treasurer.——At the annual meeting of the Harvard Alumni Association, held June 23, Drs. Vincent Y. Bowditch, Boston, of the class of '79; Henry F. Lewis, Chicago, of the class of '88; and Malcolm Storer, Boston, of the class of '89, were elected to fill vacancies in the council.

Society Meetings.—At the annual meeting of the Barnstable District Medical Society at Hyannis, the following officers were elected: Dr. Stephen H. Sears, Yarmouth Port, president; Dr. Henry B. Hart, East Dennis, vice-president; Dr. John P. Nickerson, West Harwich, secretary; Dr. William D. Kinney, Osterville, treasurer; Dr. Ephraim Cutter, West Falmouth, librarian; and Dr. James H. Higgins, Marston's Mills, trial committee.——At the annual meeting of the Hampshire District Medical Society, held in Northampton, Dr. Worthington W. Miner, Ware, was elected president; Dr. Frank H. Smith, Hadley, vice-president; Dr. Arthur G. Minshall, Northampton, secretary; Dr. Alfred H. Headley, Northampton, treasurer; and Dr. Edward W. Brown, Northampton, librarian.——Worcester District Medical Society, at its annual meeting, elected the following officers: Dr. William G. Reed, Southbridge, president; Dr. Lemuel F. Woodward, Worcester, vice-president; Dr. George E. Emery, Worcester, secretary; Dr. George O. Ward, Worcester, treasurer; Dr. Michael F. Fallon, Worcester, orator; and Dr. Ernest V. Scribner, Worcester, commissioner of trials.——At the annual meeting of the Essex South District Medical Society, held in Salem the following officers were elected: Dr. Snow P. F. Cook, Gloucester, president; Dr. Frederic W. Baldwin, Danvers, vice-president; Dr. George K. Blair, Salem, secretary; Dr. George Z. Goodell, Salem, treasurer; Dr. Carolus M. Cobb, Lynn, librarian; and Dr. Ralph E. Bicknell, Swampscott, commissioner of trials.——At the meeting of the Bristol South District Medical Society, held in Fall River, the following officers were elected: Dr. William T. Learned, Fall River, president; Dr. Augustus H. Mandell, New Bedford, vice-president; Dr. Alanson J. Abbe, Fall River, secretary-treasurer; and Dr. George L. Richards, Fall River, commissioner of trials.——Franklin District Medical Society, at its annual meeting, held in Greenfield, reelected the following officers: Dr. John W. Cram, Colerain, president; Dr. Charles L. Upton, Shelburne Falls, vice-president; Dr. Clara M. Greenough, Greenfield, secretary-treasurer; and Dr. Frances E. Johnson, Erving, commissioner of trials.

MICHIGAN.

Antituberculosis Charity Fund.—As a result of contributions in Detroit on Tuberculosis Charity day, a grand total of $11.274.99 was received.

Graduating Exercises.—The graduating exercises of the American Medical Missionary College were held at the Battle Creek Sanitarium, June 17, when a class of four was graduated. The address to the graduating class was delivered by Rev. Robert H. Nassau, M.D., a veteran missionary from West Africa.

Isolation Hospital and Tuberculosis Sanatorium.—Work is soon to be commenced on the new Contagious Disease Hospital and Sanatorium for Tuberculosis, Detroit, a site having been selected on Hamilton boulevard. The tract contains 25 acres, and the plans call for a group of buildings for the care of acute contagious diseases and for a tuberculosis sanatorium.

The Lake Michigan Water Commission.—In The Journal, July 11, page 136, we stated erroneously that Dr. Oscar C. Breitenbach had been elected president of the Lake Michigan Water Commission. Dr. Breitenbach directs our attention to the mistake and states that he is president of the Michigan State Water Commission, a subcommittee to the other organization of which Dr. William Evans, Commissioner of Health, Chicago, is president.

MISSOURI.

State Board Election.—At the annual meeting of the State Board of Health, held in Springfield, the following officers were elected: Dr. Albert H. Hamel, De Soto, president; Dr. James A. B. Adcock, Warrensburg, secretary.

Society Meetings.—Macon County Medical Association, at its annual meeting, held in Macon, elected the following officers: Dr. P. S. Watson, president; Dr. Alfred B. Miller, Macon, vice-president; Dr. Daly, secretary, and William H. Miller, Macon, treasurer. The next meeting will be held in Keota.——At the annual meeting of the North Missouri Medical Society, held in Moberly, June 18 and 19, the following officers were elected: President, Dr. Edward A. Grum, Kirksville; vice-presidents, Drs. William L. Brosius, Gallatin, and Godfrey O. Cuppaidge, Moberly; corresponding secretary, E. C. Callison, Kirksville; recording secretary, Dr. Olion C. McEwen, Salisbury, and treasurer, Dr. Robert Haley, Brookfield.

St. Louis.

Personal.—Dr. Rodney J. Bunch has been appointed assistant superintendent of the City Hospital, vice Dr. J. Wilbur Shankland, resigned.——Drs. John W. Marchildon and R. L. Thompson have gone to Europe.

Graduation Exercises.—The degree of M.D. was conferred on a class of 60 at the commencement exercises of the Washington University Medical Department, May 25, by Marshall S. Snow, acting chancellor of the university.——Following the action of the State Board of Health in declaring the Medical Department of Barnes University an incomplete institution, permission was refused, June 1, to 75 members of the graduating class to take the state examination. At a meeting of the faculty of the college, it was decided to carry the controversy to the supreme court in a final endeavor to allow its graduates to take the state medical examination.——The seventy-ninth annual commencement exercises of the Medical Department of the St. Louis University were held May 22, when a class of 68 was graduated. Rev. J. P. Frieden, president of the university, delivered the commencement address.

NEBRASKA.

Commencement Exercises.—The sixty-first annual commencement exercises of the University of Nebraska College of Medicine were held in Omaha, May 21, when a class of 25 was graduated. The doctorate address was delivered by Dr. Harvey W. Wiley, director of the U. S. Bureau of Chemistry, Washington, D. C.

County Society Organized.—At a meeting of physicians of the county, held in Plainview, May 13, the Pierce County Medical Society was organized on the standard plan. The following officers were elected: President, Dr. James M. Alden, Pierce; vice-president, Dr. Frank H. Nye, Plainview; secretary-treasurer, Dr. Leon R. Pheasant, Pierce, and councilors, Drs. Erskine M. Barnes, Plainview, John T. Pringle, Pierce, and Mansen.

NEW JERSEY.

Charity Ball Receipts.—The recent charity ball at Trenton, it is reported, will net each of the three hospitals in the city $3,569.40.

Hospital Corps for National Guard.—In accordance with the provisions of the Dick bill, a hospital corps has been formed, the members of which will be borne on a separate muster roll prepared by the senior medical officer of the organization to which the individual members are assigned.

State Society Meeting.—At the one hundred and forty-second annual meeting of the Medical Society of New Jersey, held at Cape May, June 18-20, the following officers were elected: President, Dr. David St. John, Hackensack; vice-presidents, Drs. Benjamin A. Wadington, Salem, Thomas H. Mackenzie, Trenton, and Daniel Strock, Camden; corresponding secretary, Dr. Harry A. Stout, Wenonah; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Archibald Mercer, Newark. The committee on prize essays announced awards to Drs. Thomas N. Gray, East Orange, and Floyd McEwan, Newark, whose essays were on "Infant Feeding During the First Two Years of Life."

Health of New Jersey in June.—The number of deaths reported to the Bureau of Vital Statistics during the month ended June 15 was 2,628, an increase of 26 over the previous month and 77 less than the corresponding period last year. The deaths under one year numbered 444; over one year and under five years, 249; sixty years and over, 768. The number of deaths from typhoid fever (18) is lower than for any period during the last twelve months. During the month tuberculosis caused 353 deaths; diseases of nervous system, 345; diseases of circulatory system, 289; diseases of respiratory system (pneumonia excepted), 153; pneumonia, 218; nephritis, 190; diseases of digestive system (infantile diarrhea excepted), 159; cancer, 121; scarlet fever, 48; suicide, 42; infantile diarrhea, 66; diphtheria, 41; measles, 23; cerebrospinal meningitis, 22; whooping cough, 21; typhoid, 18; all other causes, 519.

NEW YORK.

Personal.—Dr. Charles Phillips Emerson, formerly of Baltimore, was inaugurated superintendent of Clifton Springs Sanitarium July 9.

New Hospital for Buffalo.—Owing to the lack of proper facilities for the care and treatment of contagious diseases, the Buffalo Academy of Medicine has appointed a committee to facilitate the building of a municipal hospital for contagious diseases. The Erie County Medical Society has likewise appointed a committee of fifteen to further this project.

Officers of the Buffalo Academy of Medicine.—At the annual meeting of this society officers were elected as follows: President, Dr. Charles Bowerman; secretary, Dr. William Irving Thornton; treasurer, Dr. Harry R. Trick; chairman of the section of medicine, Dr. Julius Ullman; secretary, Dr. Thomas J. Walsh; chairman of the section of surgery, Dr. Lawrence Hendee; secretary, Dr. Frederick J. Parmenter; chairman of the section of pathology, Dr. James A. Gibson; chairman of the section of obstetrics, Dr. Earl P. Lathrop; secretary, Dr. Edward Mann.

Day Camp for Consumptives.—Through the efforts of public-spirited citizens of Buffalo, an adequate sum has been subscribed for a day camp for consumptives and from thirty to forty individuals are given car fare to and from the camp and obtain scientific outdoor treatment with proper food supply under the direction of Dr. John Pryor and Dr. George Eckles on a farm tract within the city limits. The work is being carried on through the efforts of the Erie County Branch of the National Red Cross Society and the Tuberculosis Committee of the Charity Organization Society.

New York City.

Personal.—Dr. David E. Hoag will accompany the annual tour of the American Automobile Association as its official surgeon. The tour began at Buffalo July 9.——Dr. Louis F. Bishop, Dr. and Mrs. S. O. Vander Poel and Dr. and Mrs. Albert Warren Ferris have sailed for Europe.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending July 4, 472 cases of measles with 15 deaths; 374 cases of tuberculosis, with 150 deaths; 244 cases of scarlet fever, with 23 deaths; 243 cases of diphtheria, with 28 deaths; 37 cases of typhoid, with 8 deaths; 17 cases of whooping cough with 5 deaths; 54 cases of varicella and 2 deaths from cerebrospinal meningitis, a total of 1,441 cases and 231 deaths.

PENNSYLVANIA.

Philadelphia.

Fourth of July Injuries.—According to the reports of the various hospitals throughout the city, nearly 1,000 persons were injured by fireworks. Very few of the injuries sustained this year were of major importance; but one death has resulted since from tetanus.

Suspended.—At a meeting of the County Medical Society, June 17, Dr. Louis J. Lautenbach, accused of diverting patients from the Philadelphia Eye, Ear, Nose and Throat Institute, a project conducted by the doctor, to his office for treatment, was found guilty and suspended for two years. A motion was also adopted recommending to the State Board of Public Charities that the charter of his institute be revoked.

Charity Society's Deficit.—According to a report of the Society for Organizing Charity, the organization will close its fiscal year this summer with a deficit of $10,000. It is claimed that the resources of the society have been exhausted by the financial depression. The following report shows the work accomplished by the society during the winter: Total applications, 11,015; number of families represented, 6,094; families under care, 1,539; permanent employment procured, 177; temporary employment, 362; employed under auspices of society, 1,097; relief to families, $18,594.73; relief for families through other agencies, 2,312; visits to poor, 29,313; individuals cared for at lodges, 12,179.

Health Report.—The total number of deaths reported for the week ended July 11, aggregated 585, including 312 males and 273 females. This is an increase of 64 over the number reported the preceding week, and an increase of 117 over the number reported in the corresponding week of last year. The principal causes of death were: Typhoid, 7; measles, 7; pertussis, 5; diphtheria, 6; consumption, 38; cancer, 26; diabetes, 4; paralysis, 12; tetanus, 2; heart disease, 41; acute respiratory disease, 28; enteritis, 113; apoplexy, 11; hepatic cirrhosis, 5; appendicitis, 8; nephritis, 37; premature birth, 9; congenital debility, 20; suicide, 6; accidents, 19; sunstroke and heat, 29; and marasmus, 9. There were 119 cases of contagious diseases, with 14 deaths, as compared with 119 cases and 20 deaths reported in the preceding week.

TENNESSEE.

Smallpox.—Dr. Philander D. Sims, city physician of Chattanooga, reports that, on June 5, there were 20 cases confined in the Isolation Hospital and that 2 other patients were under strict quarantine.

Society Meetings.—The Upper Cumberland Medical Society held its annual meeting at Sparta May 27. The following officers were elected: Dr. Byrd S. Rhea, Bon Air, president; Drs. John T. Moore, Algood, Thomas J. Potter, Smithville, and William M. Breeding, vice-presidents; Dr. Venable L. Lewis, Crossville, secretary, and Dr. R. E. Lee Smith, Doyle Station, treasurer.——At the twenty-eighth annual meeting of the Middle Tennessee Medical Association, held in Centreville, May 21 and 22, Dr. William M. Litterer, Nashville, was elected president; Dr. Leonard E. Ragsdale, Williamsport, vice-president, and Dr. R. Logan Jones, Nashville, secretary-treasurer (re-elected).——The West Tennessee Medical and Surgical Association held its annual meeting in Jackson May 21 and 22, at which the following resolutions were unanimously adopted:

> *Resolved*, That we, as members of the West Tennessee Medical and Surgical Association, will discard the use of all secret formulary products, and will decline to use proprietary medicines that are advertised either to the profession or to the public, through agents or otherwise, believing that as a rule, ready-made remedies are not conducive to the study of materia medica and the therapeutic action of medicines, and that such practice is contrary to rational medicine and results in routine practice without a due adaptation of remedies to diseases. We believe it to be more commendable to have a thorough knowledge of the action of a few drugs and know when and how to use them, than the careless habit of prescribing compounds, the effect of which we know but little or nothing.
>
> *Resolved*, That, believing the National Formulary contains a sufficient number of drugs and combinations to meet the various indications in the treatment of disease, that we endeavor to confine our practice to the official products contained therein. And it is the sense of this society that students in medical colleges should not attempt to pass a final examination in materia medica until they apply for a diploma at the end of the course.

The following officers were elected: President, Dr. Frank D. Smythe, Memphis; vice-presidents, Drs. Joseph R. Nelson, Eurekaton, and Lorenzo L. Webb, Carroll, and secretary-treasurer, Dr. Isaac A. McSwain, Paris.

TEXAS.

May Vital Statistics.—During May there were reported to the health department 5,111 births, with 1,768 deaths. Of the decedents, 353 were over 60 years of age and 330 under 1 year old.

Endorses Amendment to School Law.—The North Texas Medical Association, at its fifty-seventh semi-annual meeting, held in Denison June 17 and 18, adopted resolutions setting forth needed improvements in the county public school system and endorsing the pending constitutional amendment relating to public free schools. The association holds its next meeting in Dallas in December.

Tuberculosis Fight.—Dr. Hatch W. Cummins, Hearne, president of the State Medical Association of Texas, has written a letter to the councilors of the association, urging their support and help in selecting delegates to the International Meeting on Tuberculosis. He requests that each councilor furnish the names of five physicians of his district, who promise to attend, that these may be added to the list of delegates.

UTAH.

Verdict Against Physician.—In the case of Mrs. Jane James against Dr. J. E. Robertson, in which damages of $5.000 were claimed on account of alleged neglect by the physician which caused the plaintiff to lose one eye, the jury is said to have returned a verdict, June 12, for the plaintiff, assessing damages at $1,500.

Health Bulletin.—During May, 361 deaths were reported in the state. There were 94 cases of scarlet fever, with 5 deaths; 33 cases of smallpox; 35 cases of diphtheria, with 3 deaths; 27 cases of typhoid fever, with 2 deaths; 581 cases of measles, with 3 deaths; 8 cases of chickenpox; 159 cases of pneumonia, with 58 deaths, and 16 cases of tuberculosis, with 10 deaths.

Sentenced to Penitentiary.—Dr. Edward S. Payne, an aged practitioner of Salt Lake City, indicted on eight counts for sending out literature and medicine contrary to law, is said to have pleaded guilty on two counts and to have been sentenced to imprisonment for two years at hard labor in the United States penitentiary at Fort Leavenworth.

VERMONT.

Vermont Alumni Meet.—At the annual meeting of the Alumni Association of Vermont University Medical Department, Burlington, held June 23, the following officers were elected: President, Dr. W. Scott Nay, Underhill, '73; vice-presidents, Drs. U. A. Woodbury, Burlington, '59; Jacob C. Rutherford, Providence, R. I., '86; Donly C. Hawley, Burlington, '84; Matthew J. Wilson, Philadelphia, '83, and William H. Briard, Boston, '83, and secretary-treasurer, Dr. Lyman Allen, Burlington, '93.

Soo Valley Society Election.—At the thirteenth annual meeting of the Soo Valley Medical Association, held in Sioux Falls, S. D., June 19, the following officers were elected: President, Dr. Charles O. Wright, Luverne, Minn.; vice-presidents, Drs. Prince Sawyer, Sioux City, Iowa; Elwin F. Reamer, Mitchell, S. D.; secretary, Dr. Charles L. Sherman, Luverne, Minn.; treasurer, Dr. Samuel A. Brown, Sioux Falls, S. D.; and censors, Drs. Gilbert G. Cottam, Rock Rapids, Iowa; William P. Roberts, Sioux Falls, S. D.; John A. Dales, Sioux City, Iowa, and Arthur E. Cook, Randolph.

VIRGINIA.

Personal.—Drs. Horace Hoskins, Frank G. Scott, Harry F. White, and Eugene Eggleston are the newly appointed internes at the City Hospital, Richmond.——Dr. Oscar Fletcher has succeeded Dr. I. J. Roper as surgeon in charge of the King's Daughters Hospital, Norfolk.

Medical Staff Elected.—The council committee on relief of the poor of Richmond have appointed the following consulting staff for the City Home: Surgical, Drs. George Ben Johnston, Charles R. Robins, H. Stuart MacLean, and James W. Henson; medical, Drs. William S. Gordon, McGuire Newton, Manfred Call, and John G. Trevilian, and eye and ear, Drs. Joseph A. White and Clifton M. Miller.

Elections.—At the meeting of the Alumni Association of the Medical College of Virginia, the following officers were elected: President. Dr. William C. Barker, Buchanan; vice-presidents, Drs. W. E. Evans, Noland, N. C.; L. A. Burke, Petersburg, and H. B. Mahood, Emporia; secretary, Dr. McCaw Tompkins, Richmond; assistant secretary, Dr. D. D. Talley, Jr., Richmond, and treasurer, Dr. Frank H. Beadles. Richmond.——The thirteenth semi-annual meeting of the Southwest Virginia Medical Association was held in Emporia. June 2, when the following officers were elected: President, Dr. Peyton B. Green, Wytheville; vice-presidents, Drs. Thomas D. Hutton, Glade Spring, and James H. Dunkley, Saltville, and secretary-treasurer, Dr. A. B. Greiner, Rural Retreat.

Report of the Smallpox Epidemic in Alexandria.—Passed Assistant Surgeon Goldberger, in his official report to the surgeon-general of the U. S. Public Health and Marine-Hospital Service, states that cases of this disease had been occurring from time to time since early in January of this year, but on account of its mildness many of the laity had questioned the correctness of the health officer's diagnosis, and had accordingly been indifferent or actively opposed to taking the necessary sanitary measures for its suppression. In 13 cases of the disease in six families, 4 presented a well-marked discrete eruption which was clearly that of smallpox; the others were convalescent, evidently from the same disease. With only one exception, none claimed to have ever been vaccinated, although several were children of school age; the one exception was a young man presenting a well-marked discrete eruption who claimed to have been vaccinated in 1898, but a careful search for a scar failed to reveal any evidence of it. Practically nothing is being done to suppress the disease. The health officer stated that disinfection with formaldehyd was being practiced, but from his description of the method employed Dr. Goldberger believes that it is ineffective. There being no hospital where the sick and contacts can be taken for treatment and isolation, an attempt was made to isolate them in their homes by placing a guard outside. This guard was maintained during the day only. Manifestly this practice affords little, if any, protection to the community; on the contrary, by permitting a continuance of the intimate association in the household between the sick and the well (the latter, for the most part, unprotected children), there is a condition of affairs which is in the highest degree favorable to the multiplication in the number of cases and the indefinite prolongation of the outbreak.

WEST VIRGINIA.

Personal.—Dr. Daniel J. Rudasill, Kingwood, has been appointed local U. S. pension examining surgeon.——Dr. Stewart, Wheeling, who has been physician for the penitentiary for several years, has resigned.

State Society Meetings.—The forty-first annual meeting of the West Virginia State Medical Association was held in Clarksburg, May 13-15, under the presidency of Dr. William W. Golden, Elkins. The following officers were elected: President, Dr. Fleming Howell, Clarksburg; president-elect, Dr. Vincent T. Churchman, Charleston; vice-presidents, Drs. Robert J. Reed, Wheeling; Rawley H. Powell, Grafton, and Henry D. Hatfield, Eckman; secretary, Dr. Thomas W. Moore, Huntington; treasurer, Dr. Timothy L. Barber, Charleston; councilors, first district, Drs. Henry P. Linsz, Wheeling, and Arthur O. Flowers, Clarksburg; second district, Drs. Richard E. Venning, Charleston, and John C. Irons, Elkins; third district, Drs. Peter A. Haley, Charleston, and George D. Lind, New Richmond; fourth district, Drs. Thomas J. McGuire and William N. Burwell, Parkersburg; fifth district, Drs. Joseph B. Kirk, Elkhorn, and Joseph E. Rader, Huntington; delegate to the American Medical Association, Dr. J. G. Walden, Wheeling, and alternate, Dr. Orra F. Covert, Moundsville. The next meeting of the association will be held in Elkins. In his presidential address Dr. Howell advocated the conversion of one of the state's hospitals for the insane into a detention sanatorium. The following resolution, introduced by Dr. Alva S. Grimm, St. Marys, was adopted:

> WHEREAS, The study of alcohol from a scientific standpoint has demonstrated that its action is deceptive and that it does not have the medical properties that we once claimed for it, now, therefore, be it
>
> *Resolved*, By the West Virginia State Medical Association, That we deplore the fact that our profession has been quoted so long as claiming for it virtues which it does not possess, and that we earnestly pledge ourselves to discourage the use of it, both in and out of the sick room.

GENERAL.

Examination of Rats.—Passed Assistant Surgeon Currie reports that, during the week ended May 30, 475 rats were trapped in Honolulu and destroyed, but none was found infected.

Yellow Fever.—Acting Assistant Surgeon Wilson reports from Santiago that a case of yellow fever was reported in that city, June 4. in a Spaniard who died seven days later. The autopsy verified the diagnosis.

Dock Goes to Tulane.—Dr. George Dock, professor of theory and practice of medicine in the University of Michigan; a well-known writer and investigator in pathology and clinical medicine, has accepted the chair of the theory and practice of medicine, and clinical medicine in the Medical Department of Tulane University, Louisiana.

Coming Meetings.—The American Academy of Ophthalmology and Oto-Laryngology will hold its annual meeting in Cleveland, August 27-29, with headquarters at the Hollenden Hotel. Dr. Secord H. Large is chairman of the committee of arrangements.——The annual meeting of the Medical Association of the Southwest will be held in Kansas City, October 20 and 21. Dr. John Punton is chairman of the committee of arrangements.

Marine Hospital Posts Open.—The Public Health and Marine-Hospital Service announces an examination at 3 B Street S.-E., Washington, D. C., Monday, Sept. 14, 1908, for assistant surgeons. Candidates must be between 22 and 30 years of age, graduates of reputable medical colleges, and free from any ailment which would disqualify them for service in any climate. The terms of service, etc., have been described in The Journal, or may be obtained on application to the surgeon-general at the above address.

The Southern Medical Journal.—The first number of this new medical journal, having Nashville, Tenn., for its place of publication, is very attractive. We are informed that "no 'hobby' or 'scheme' of any individual school or locality is promoted, and no advertisements of questionable character appear in it." The present issue, which is well printed on paper of good quality, contains a variety of excellent original articles besides editorial articles, abstracts of current literature, etc. The policy laid down for the journal by its promoters is clean, explicit, and courageous, and we wish it a hearty success.

International Congress on Tuberculosis.—Within the last few days Dr. John S. Fulton, the secretary-general of the International Congress on Tuberculosis to be held in Washington, D. C., Sept. 21-Oct. 12, 1908, has been notified of the formation of a committee of arrangements for Cape Colony in South Africa; and of the appointment of official delegates by the departments of state of Denmark, Spain, Newfoundland, Russia, England, Scotland and France. The chairman of the South African Committee is Dr. A. Jasper Anderson, Cape Town, medical officer of health for that district, and chairman of the council of the Association for the Prevention of Consumption and of Other Forms of Tuberculosis in Cape Colony. The committee includes, in addition to a number of representative physicians and laymen, the Rev. A. P. Bender, rabbi of the synagogue at Cape Town. The official delegates from Denmark are Prof. B. Bang, Professor Fibiger and Dr. H. Rördam, a military surgeon and a member of the Danish parliament. Dr. Bang will deliver a lecture during the congress on the method of immunization of cattle which has been adopted by the Danish government and which bears his name. The Bang method has attracted favorable attention in the United States and is being tried by some dairymen. The system is a welcome substitute for the plan of killing all infected cattle. Instead of resorting to extreme measures, tuberculous cows are not required to be disposed of, but are separated from the main herd. The calves of these animals are removed from the infected herd; are carefully fed on sterilized milk; and if results justify it, are finally placed with the healthy herd. In this way the healthy herd gradually increases in size and the diseased one runs out. Dr. Camilo Calleja, Madrid, the Spanish official delegate, is a writer on scientific topics, and is the author of a number of well-known works. Dr. Ramon y. Cajal, Madrid, the winner of the Nobel Prize awarded in 1906, is a member of the Spanish committee of arrangements for the congress. The French official delegates reported so far include Prof. L. Landouzy of the Faculty of Medicine at the University of Paris, the president of the French committee of arrangements for the congress; M. Leune, inspector of the academy, who will represent the Department of Public Instruction of France; and Dr. Maurice Mignon, Nice, who will come from the Mediterranean Medical Society. Dr. S. S. Steriopulo, Moscow, will come as a delegate of the permanent Russian Tuberculosis Commission, and Mr. K. J. Kalning of Riga will represent the Baltic Veterinary Society. Dr. Henry G. Beyer, chairman of the committee on the exhibition to be held in connection with the congress, has been notified of the arrival in this country of the exhibits which have been assembled by the national committees of Germany, Sweden and Switzerland. The New National Museum in which the congress and the exhibition are to be housed, will not be finished by the time the congress convenes. The first and second floors, however, will be put into such a state as to house the congress and the exhibits conveniently. These two floors have a combined space of about 100,000 square feet. The use of this building was authorized by Congress, and $40,000 was appropriated to make it available for the meeting and to accommodate the exhibits.

FOREIGN.

Transactions of International Hygiene Congress.—The four volumes containing the official transactions of the Fourteenth International Congress for Hygiene and Demography, held at Berlin last September, are published by August Hirschwald, Unter den Linden 68, Berlin. The volumes can be bought separately at prices ranging from $1.50 to $5, or the whole set is sold for $12.50.

Cholera in India.—Consul-General Michael reports from Calcutta that the work of inoculation against cholera in the coal fields is being pushed vigorously. Dr. Haffkine spent a day in Asansol for the purpose of meeting the residents with a view to affording those who wished the opportunity of protecting themselves. He has arranged to carry on inoculation at the Chota Nagpur and vicinity. The present epidemic has reawakened interest in cholera inoculation, which was carried on extensively and with a large measure of success between 1893 and 1896, and which, though continued for some years afterward, was completely overshadowed by the outbreak of plague.

Personal.—Dr. Samuel Gemmel, professor of clinical medicine in the University of Glasgow, has been appointed professor of practice of medicine in that institution to succeed the late Sir Thomas McCall Anderson.——The following medical men were among the recipients of "birthday honors" in Great Britain: Sir Thomas Lauder Brunton and Prof. Watson Cheyne have been created baronets; Col. David Bruce of the royal army medical corps, Mr. Robert W. Burnet and Mr. Peter O'Connell have been knighted; William Henry Power, C.B., has been promoted to knight commander of the Order of the Bath; Lieut.-Col. Francis F. Perry, Indian Medical Service, principal of the Medical College of Lahore, has been made a Companion of the Indian Empire; and Lieut.-Col. Johnston Shearer of the Indian Medical Service has been made a Companion of the Order of the Bath.

LONDON LETTER.

(From Our Regular Correspondent.)

London, June 27, 1908.

The Research Defense Society.

The inaugural meeting of this society, formed "to make known generally the facts about experiments on animals in this country," was held at the house of the Royal Society of Medicine. The president, Lord Cromer, delivered an eloquent address in defense of vivisection. He said that it had been shown that vivisection had yielded invaluable results and promised results still more invaluable. Experiments were conducted in such a way as to minimize, if not to abolish, pain. Nearly every discovery in medical science since Harvey discovered the circulation of the blood was, directly or indirectly, the result of experiments on animals. One of the greatest discoveries of modern times—transmission of malaria by mosquitoes—was going to make the tropics habitable. When Professor Osler was asked at the Royal Commission on Vivisection, now sitting, whether this discovery could have been made had it not been for previous experiments on animals, "Never" was the reply. "The men who made these investigations spent their lives in the laboratories and their whole work has been based on experiments on animals." The case of antitoxin was another example. The statistics of the Metropolitan Asylums Board of the percentage of fatal cases had sunk from 28 in the period which preceded the introduction of the antitoxin treatment to 2.8 per cent. Great misapprehension existed as to the extent to which vivisection was carried on. According to the latest figures about 73,000 experiments were made in 1907. But of these no fewer than 96.5 per cent. were inoculations, that is to say, did not involve operations of any kind. In the remaining 3.5 per cent. the operation was always carried on under an anesthetic. Speaking before the Royal Commission Professor Starling had said: "Though I have been engaged in the experimental pursuit of physiology for the last seventeen years, on no occasion have I ever seen pain inflicted in any experiment on a dog or cat, or, I might add, a rabbit in a physiologic laboratory in this country."

A Doctor in the Arctic.

Dr. James F. Rymer will shortly gain the distinction of being the first qualified British medical man to take up his residence in the Arctic Circle. After serving eight years as medical officer at the Carthusian Monastery in Sussex, Dr.

Rymer went to Canada and for the past six months has lived at Edmonton, Alberta Recently he left there on a lonely journey of 1 800 miles along the Athabasca and Mackenzie rivers his destination being Fort Good Hope which is about 100 miles within the Arctic Circle He does not propose to return to civilization for at least three years He has sufficient medicine in concentrated forms to last at least one year and has arranged for more to be forwarded His patients will be the Indians and Esquimaux in the vicinity of Fort Good Hope and Fort Macpherson Several diseases and fevers often break out among them and as they have no skilled attention the loss of life has been enormous The Doctor can speak French which is the only language other than their own which the Indians understand, and intends to start the study of the languages of the Indians and Esquimaux directly he arrives At his headquarters he will not have more than five white companions these being connected with a Roman Catholic mission and trading post

Craniologic Investigation by the Egyptian Government at the Royal College of Surgeons

The director general of the survey department of the Egyptian government has written to the Royal College of Surgeons asking that facilities may be given to Dr Elliott Smith and Dr Wood Jones of the Cairo Medical School to carry out in the museum of the college an examination of a collection of material found in the course of excavations made in the Nile Valley and representing the varied races of people who inhabited Nubia in ancient times together with their pathology and the results of their surgery The Egyptian government offers the museum of the college the material, which is sent for the purposes of comparative study The president has informed the government that the desired facilities would be granted The council of the college resolved that the government should be informed that they regarded the collection of specimens as a most valuable addition to the museum

The Dangers of Motor Traffic in London

The nuisance and dangers of the motor bus are much in evidence At a protest meeting on the subject held in the city the Lord Mayor presided Sir Dyce Duckworth, physician to St Bartholomew's Hospital, objected to the motor buses and cars on the following grounds They create a fearful noise and vibration Their speed in many places is a perpetual danger Fatal and other injuries to people and property are increasing Dropping of petrol causes slipperiness to horses and damages varnish of carriages The stench is insufferable 'In short locomotion in the streets of London has now become abominable and little short of a prolonged agony" The following are the official figures of the accidents which occurred last year Accidents caused by motor buses 4,723, fatal cases, 36, cases of personal injury, 1,068 Accidents caused by motor cars 5 959 fatal cases 66, cases of personal injury 2 055 A resolution was carried calling for amended legislation in the interests of the public and declaring the excessive noise, speed and noxious smell of a large proportion of the motor traffic to constitute a great danger

Survival After Rupture of the Spinal Cord

A remarkable case of rupture of the cervical spinal cord in which the patient survived has just been brought to a close in St Bartholomew's Hospital In last October a lad, aged 17 was crushed across the shoulders while trying to get out of an elevator His spine was broken and he was paralyzed below the neck As he could not use his arms he was unable to feed himself An operation was performed to ascertain whether bone was pressing on the spinal cord The cord was found severed two inches from the brain After lying in bed for four and one half months the boy was able to twitch his fingers but this was the only movement he ever regained He received unremitting attention and everything was done to brighten his life A special reading desk was fitted up above his bed He lived for seven and one half months

London and Counties Medical Protection Association

The annual report of the London and Counties Medical Protection Association shows that there is an increased tendency of people to claim compensation from doctors when the results of treatment are not as satisfactory as could be wished and to make this fact a ground for not paying their bills Thus a member who took proceedings to recover fees for medical attendance was met by a counter claim for $250 on the ground of alleged negligence and want of skill The case was defended by the society The judge gave judgment for the plaintiff and said that the counter claim was monstrous The question whether the society should not only pay the expense of defending actions against its members (as it does now) but also undertake to reimburse members for adverse verdicts and costs has been under consideration To do so it would be necessary to raise the annual subscription from $2 50 to $5 A circular was issued to the members of the society requesting them to vote on the project The result was very unsatisfactory Two thirds of the members did not vote and of those who did four fifths were in favor of the scheme The council was therefore unable to move any farther in the matter

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 15 1908

An Antiquackery Bill

That folly and the quackery which feeds on it, flourishes not only in the land of freedom under a republican system but also in monarchies, even in states with an absolute government is a fact with which we must reckon and all regulations which have been devised or which can be thought of will not alter this fact Neither legal restrictions nor education of the people, from which so much is expected at present, will banish quackery from the world This conviction, however must not hinder us from continually seeking new methods for repressing this evil which injures the sick, not only in purse but often in life and limb In this direction a duty is especially imposed on physicians We do not wish to deny that in this matter we are contending for our own interests—on the contrary we may freely acknowledge that we do not patiently put up with an injury to our material interests but are seeking to carry on a justifiable struggle for our means of livelihood But this struggle on the part of physicians is justified in the eyes of the public by the fact that it is carried on also to an equal extent or in a higher degree, in the interest of the community and especially of its weaker part, those who are sick and suffering

It may be already known to you that in Germany up to the year 1869 there was a legal prohibition of quackery This was abolished not on the initiative of the government, but on that of the liberal party, which in its idealism was of the opinion that the German people were well enough educated always to prefer scientific physicians to quacks To be sure, under these restrictive measures quackery prevailed to a not inconsiderable extent, but it must be admitted, on the other hand that since the removal of the prohibition quackery has grown markedly in extent and in pernicious activity

According to an official report for the year 1901, quackery has increased in Berlin 1600 per cent in the last twenty years, and according to approximate statistics of the same year the number of professional quacks in Germany was 12 000 According to a compilation by Dr Reissig, from 1888 to 1891, there were sold in Germany 1 724 000 books by quack authors, at a price of 14 500,000 marks ($3,480,000) The sort of persons who make a business of treating the sick without a medical license has frequently been publicly established Not only people of the most inferior education, but also persons of the lowest ethical standing, who have repeatedly been punished with imprisonment or sent to the house of correction, possess the confidence of the public to such an extent that care for the health is entrusted to them To be sure the attempt has been made by police regulations and by instruction of the public to restrict quackery Quacks have often been punished for violation of the sections of the law regarding injury to health and homicide by carelessness, and yet no recession of quackery has been observed The material advantages which can be secured in this convenient way—convenient at a time when newspaper information is very widespread and everything which is printed is believed, not simply by the uneducated—are so enticing that the business is carried on boldly in spite of all threatened punishments and is constantly being taken up anew by still other people On account of these facts the government as I have already mentioned in a former letter, has determined to limit quackery or, as it is termed the exercise of the healing art by unapproved (*nicht approbierte*) persons, by a special law A law entirely prohibiting quackery is not contemplated by the government, chiefly because the prospect of such a law being accepted by the reichstag is very small The radical (*freisinnige*) party would vote against it on the same ground as that on which their predecessors supported the abolition of the prohibition of quackery namely from ideal principles from their policy to leave every citizen as much freedom as possible The social democrats are op posed to it, because the majority of quacks belong to the lowest of the population, from which that party draws most of its adherents, and similar reasons would be influential with the other parties in bringing about the defeat of a law which contained a prohibition of quackery. The bill which the government published a few months ago, in order to obtain the opinions of the classes interested, contemplates placing the quacks under the strictest control so that they will be obliged to keep record books in which statements of their business shall be regularly entered. The so-called absent treatment (by letter, etc.), treatment of venereal diseases, and treatment by means of hypnosis and narcosis or by means of so-called mystical methods (magnetism, spiritualism, etc.), are forbidden. If the quack is convicted of a punishable offense in the exercise of his "profession" he may be forbidden to practice it. Whoever makes untrue statements in public advertisements regarding the treatment of the sick or remedies therefor is liable to punishment. These are the essential provisions. The German medical profession has expressed itself favorable to this bill in the professional press, and in some cases demanded stricter provisions. The German Medical Convention, which meets at the end of June, and which is composed of delegates who represent the majority of the organized physicians, will take up the question with the same intent. From the public, and especially from the parliamentary class, no considerable number of opinions regarding the bill have so far found expression. It is easy to understand that the quacks themselves, especially so far as they are organized in associations, vigorously oppose it. Whether the government will have the courage actually to introduce a bill into the reichstag and what success it will have, remains to be seen. In view of the composition of our reichstag, too great hopes are, unfortunately, not to be indulged in.

Value of Diphtheria Antitoxin.

While in your country certain states are already furnishing diphtheria antitoxin gratis to physicians (in a similar manner as the Italian government supplies its physicians with quinin for the fight against malaria), there are still in Germany, in the country where diphtheria antitoxin originated, a number of physicians who are not yet convinced of the effectiveness of the serum and who do not use it in their practice. They are supported by certain prominent medical statisticians who, on the ground of epidemiologic studies, sustain the view that the undoubted diminution in diphtheria mortality for the last fifteen years is to be referred to the natural variation of the so-called *genus epidemicus*, and that the antitoxin has had no share in this diminution of the death rate. Most practitioners, indeed, and particularly all pediatrists (in Austria, Prof. Kassowitz forms perhaps the only exception), are unconditional supporters of antitoxin. This position found expression in an address which the renowned Berlin pediatrist, A. Baginsky, delivered before the Berlin Medical Society, June 17. The speaker, as well as the pediatrists and surgeons who followed him, emphasized the importance of the antitoxin treatment. The fact that the diphtheria mortality in the hospitals has sunk from about 40 to 50 per cent. before the discovery of antitoxin to the present figure of 10 to 20 per cent., and that the death rate of tracheotomy cases which before the year 1894 was about 70 per cent. now reaches only about 20 per cent., is unconditionally attributed to antitoxin, and it was urged on physicians as a duty by all the speakers to employ the serum at the right time in every case of diphtheria. In Germany from 4,000 to 5,000 antitoxin units are injected as a maximum, while in America (as was repeatedly recalled in the discussion) in severe cases as much as 20,000 to 30,000 units are injected. Whether it is possible to lower the present mortality figures by the use of these large doses, further experience must decide.

Professor Behring.

While the antitoxin treatment of diphtheria is almost universally accepted in the entire civilized world, it is unfortunate that we can not report anything very encouraging regarding the health of its discoverer, E. Behring. To be sure the reports of a mental affliction or of progressive paralysis—which emanated from Paris and may well be called malicious—have fortunately not been confirmed; but for a number of months he has been in a sanatorium for nervous diseases at Munich, undergoing treatment for his marked neurasthenia. The extraordinarily exhaustive intellectual labor, the numerous severe disappointments which this too sanguine man has experienced in his various fields of work and especially in tuberculosis, the not inconsiderable material responsibilities necessitated by his establishment at Marburg planned on an unusually large scale (where he has spent several hundred thousand marks in organizing the business of his investigations, and especially in the search for a remedy against tuberculosis), and probably still other causes have made severe demands on the elastic force of this laborious investigator and produced a certain degree of exhaustion. It is to be hoped that he may again recover his previous health and continue his researches in the service of science.

VIENNA LETTER.

(*From Our Regular Correspondent.*)

Vienna, June 25, 1908.

Accidental Infection with Glanders.

An unusual accident occurred recently in the public institute for the examination of food at Czernowitz. Dr. Luksch, the chief bacteriologist, while making some investigations on the *Bacillus mallei* put a large quantity of the bacilli, obtained from an animal from the slaughter-house, into a centrifuge. The tube containing the glanders bacillus burst and the contents were scattered over the laboratory. The fragments of glass were picked up by some of the persons working in the room, and, as it was believed that the bacilli were dead or inert, no great precautions were taken to prevent infection. In the course of a few days all those who were in the room at the time of the accident, developed symptoms of glanders, especially of the tracheal and pulmonary type, and two of the victims died within forty-eight hours of the onset of the disease. Dr. Luksch also fell ill but soon recovered; two days after apparent recovery he again developed some pustules on the ear and was brought to the serotherapeutic institute in Vienna.

An Accident Hospital.

In order to centralize the teaching of accident surgery the ministry for education has arranged with the two surgical clinics of the general hospital to convert certain wards into a special accident department. The ambulance corps, as well as the police, have been instructed to deliver, after October 1, all cases requiring hospital treatment to this department. The two clinics of von Eiselsberg and Hochenegg will draw their material from it and special classes for students, both undergraduates and postgraduates, will be arranged, each group having to serve a term of fourteen days, several times a year, in the casualty ward. Part of the ward will be at the disposal of the military authorities who will institute special classes for the army military corps.

Proposed Reform in Sanitary Regulations.

A bill is before the Austrian parliament dealing with needed reforms in the sanitary regulations. The main points of the bill are: Completion of the scientific institutions, already erected, according to modern medical knowledge; centralization of all sanitary boards and the election of competent medical men as presidents of the local branches of the board; the erection of all such institutions as are required for the study and relief of disease; improvement of the position of the public health officers and larger powers for them (hitherto medical opinions have been overruled by the bureaucrats). The bill is strongly supported by the medical profession.

Professor Meyer Asked Not to Leave Vienna.

Prof. Hans Horst Meyer, the pharmacologist, who was called to Vienna about three years ago, has been asked by the senate of the Berlin University to accept the chair of pharmacology in that institution. In order to dissuade him from accepting this flattering offer a deputation of ten of the most eminent members of the profession, all professors of the Vienna medical faculty, waited on him and asked him not to desert Vienna, both for scientific and national reasons. This unusual act not only caused a widespread sensation in the profession, but also reminded the government that it is its duty to retain such eminent men at any cost. Professor Meyer will not leave Vienna.

Mortality from Tuberculosis in Austria.

The population of Austria-Hungary is about 45,000,000, and the annual mortality from tuberculosis is 750,000, or 14 per cent. of the total deaths from all causes. The northern parts of the empire show a ratio of 38 to 48 per 10,000 inhabitants, while the southern parts have only about 22 to 30 deaths from tuberculosis to each 10,000 inhabitants. The highest mortality is found in Bohemia with a mean of 54 in the north and 36 in the south, per 10,000. Vienna also has a high average mortality from this disease—42 per 10,000—but the hospitals as a center for a large area, are largely responsible for this high rate.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(Continued from page 140.)

XVII. THE NON-PROPRIETARY UNOFFICIAL ARTICLES.

Another problem which has caused the Council some perplexity is that regarding the unofficial substances which have somehow escaped appropriation by proprietary manufacturing houses. There is the host of non-proprietary compound formulas, ranging from morphin-atropin tablets to Dr. X.'s favorite antigout pill or pneumonia mixture. With these the Council need not at present concern itself. Their ingredients are official substances; the combinations may be desirable or, more commonly, undesirable, according to the circumstances, which were discussed in the last chapter.

There are, however, many non-proprietary simple substances, chemicals, active principles, plants, etc. (such as digitalein, cholesterin, mercury salicylate and zinc permanganate), which are not in the Pharmacopeia, and which can not easily be made the subjects of monopoly. Their number is considerable, as a glance at Merck's index or at the fluidextract list of any manufacturing house will show. They have not been admitted into the Pharmacopeia, either because they are of little or no value and little used, or because they are too new. The majority belong to the former class; they might well be spared from the materia medica. Unfortunately, however, some enthusiast periodically resurrects one or the other of them; this then springs into sudden prominence, and becomes to all intents a "new" remedy. The physician who is impressed by these reports naturally desires some unbiased and reliable information about them, as well as about the remedies which are actually new. The ordinary reference books, however, give but very scanty data; they necessarily lack the elasticity which is essential for the proper presentation of a new subject. Above all, however, a physician who desires to try these new remedies should be assured that they are of a uniform quality; but with them, there are no established standards of any kind.

A variety of abuses naturally results. The enthusiastic, if disinterested, statements of the discoverers, or re-discoverers, are rarely subjected to that serious criticism which is indispensable for scientific progress. Incalculable harm may thus be done by extensive experimentation with a remedy in conditions in which it is not indicated. On the other hand, a really valuable agent may lie neglected because no one is paid to "push" it; or it may be seized on by a proprietor, "protected" by a coined name or disguised in a mixture, and sold at an exorbitant price, under doubly exaggerated claims, as happened with phenolphthalein. Most serious of all, the uncertain quality or loose nomenclature of these drugs may constitute a very serious danger, as in the case of the digitalis principles; or at least such may cause creditable remedies to fall into disuse.

It has seemed to the Council, therefore, that there is a very real need for the collection of authoritative data about the more important or commonly used of these non proprietary unofficial articles, and a special committee has been appointed for the purpose. A list of some eighty of these substances is under discussion, and the Council will appreciate suggestions from the profession as to what substances should be included. It is not intended to confine this investigation to those articles which the Council believes to be really valuable, but also to present the facts about those which have an unjustified popularity.

When it has been decided what substances should be taken up, the necessary data will be obtained as rapidly as possible. An abstract will probably be published in these columns, and a description, prepared on the general plan of the New and Non-Official Remedies, will be inserted in a proposed book. If, then, a physician desires to obtain these drugs of standard quality, he need only affix "N. N.-O. R." to the name of the product. In the event that the drugs on the market are generally below this standard, the Council may mention the names of those manufacturers who have been found to supply the products of the required grade.

(To be continued.)

MARIENBAD TABLETS.

The Commercial Value of a Name.

What potentialities exist in a name! The great watering places and health resorts of Europe are household words and their names compel attention. Hence, when a physician receives in his mail a package bearing a foreign postmark and an unusual looking stamp, with the name "Marienbad" on the enclosure, he may possibly restrain his first impulse, born of experience, to throw the "sample" into the waste basket. He may be excused for expecting to find something of unusual merit in a medicine elaborated at such a world-renowned health resort as Marienbad. Especially is his enthusiastic expectancy pardonable when he learns that "Marienbad Tablets" are "prepared according to the prescription" of an individual with the imposing cognomen, "Prof. Dr. Med. Chevalier de Basch."

Then, too, accompanying the "sample" is a circular descriptive of the virtues of this great medicine, printed in parallel columns of massive German and picturesque English. In it he is informed that the "Marienbad Tablets act mildly, without pain on the bowels, and consequently effect their evacuation." Great stress is laid on the advantage of the "tablet-shape" which makes possible the "offering of a perfectly equal dose of the efficacious ingredients" and simplifies the administration "on account of their compendious shape." "Marienbad Tablets," he is told, are unexcelled for the treatment of that condition recognized by all physicians as "sanguiness and its after-effects, such as vergitiousness," and they are highly recommended in cases of "arteriosclerose." As a sop to Cerberus, the circular suggests "the diagnosis should be made by the physician," the assumption being that the proprietors of "Marienbad Tablets" will take care of the treatment while the prognosis will naturally take care of itself.

And the composition of this "compendious" cure for "sanguiness" and "vergitiousness"? Well, if carefully looked for, *the physician will find that "Marienbad Tablets" consist of* extract of aloes, powdered rhubarb, podophyllin, extract of cascara sagrada and extract of belladonna. That is all; just a simple cathartic tablet such as physicians are prescribing for their patients daily. They do not even contain a picturesque, pharmacologic nonentity like cactin or "latalia rad." Wherein, then, lies the special virtue of their "efficacious ingredients"? We are forced to the conclusion that this must reside in the psychic effect produced by taking a silver-coated tablet from a gilt-trimmed box, labelled "Marienbad," rather than in the essential contents of the tablets themselves.

Frederick Stearns & Co., "Patent Medicine" Vendors.

Physicians who attended the Chicago session of the American Medical Association doubtless noticed while riding on the street cars the blatant advertisements of the headache remedy SHAC (Stearns Head Ache Cure). This nostrum, which seems to have been responsible for at least two cases of poisoning,[1] is put on the market by Frederick Stearns & Co., Detroit—a fact that was noted in these pages a few months ago.[2] It was not unnaturally assumed that these Peruna-like advertising tactics had been adopted by an enterprising local representative anxious to make a "showing." The June issue of the *New Idea* —a monthly journal published by Frederick Stearns & Co. and devoted to advertising their products to retail druggists—shows that this assumption was not well founded. In their journal they inform the druggist that "a new series of SHAC street car cards are now ready for use in the large cities."

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[1] The Journal A. M. A., Dec. 15, 1906, 2012, and Nov. 16, 1907, 1675.

The evils of the indiscriminate use by the public of such powerful and insidious drugs as are contained in the various headache remedies need no further iteration. The question has long since ceased to be an academic one and no casuistic reasoning nor specious arguments can hide the fact that enormous harm is being done by the exploitation of these acetanilid-containing nostrums, and the medical profession has expressed itself in no uncertain tone regarding the matter.

SHAC, however, is not the only "patent medicine" put on the market by Frederick Stearns & Co. Just as extensively advertised—and in the same mediums, the street cars—are Zymole Trokeys "for husky throats." Then there is Pam for the dyspeptic, a "tiny tablet of wonderful power," of which the modest statement is made that "every ferment of the digestive tract that is available is used in these tablets, fitting them for use in all kinds of indigestion." Surely, with such drugs at their command, dyspepsia need give physicians no further cause for worry!

These are some of the products put on the market by Frederick Stearns & Co. and vigorously "pushed" by them in advertisements to the laity. A firm which, while soliciting the patronage of physicians through the pages of medical journals, is at the same time furthering the interests of self-drugging and dangerous nostrum-taking, will be looked on with distrust and suspicion by the medical profession.

Uranalysis by Quacks.

Four young persons in Germany recently sent a vial each, according to directions, to the "urine specialist," J. Locher, who diagnoses disease from inspection of the urine. Each was informed that he had a catarrhal affection of the stomach, abdomen or throat, and each was instructed to buy a bottle of Locher's remedy, costing $1. They did not buy the remedy, as the vials they sent had contained nothing but diluted beer.

Book Notices

THE HARVEY LECTURES, Delivered Under the Auspices of the Harvey Society of New York, 1906-07. Pp. 314, with illustrations. Cloth. Price, $2.00. Philadelphia: J. B. Lippincott Co., 1908.

This volume is a monument to the success of the Harvey Society of New York, which was organized for the purpose of enabling practitioners of medicine to acquire at first hand from men engaged in research more knowledge concerning the scientific problems and principles underlying their profession. From the start these lectures have served as an inspiration, not only to those so fortunate as to be within the range of the Harvey Society, but also to those who have read the lectures in various medical journals. Their publication in a single volume will be welcomed by many, and their influence will be in this way extended. The benefits of such lectures as those of the Harvey Society and the various lecture associations and endowed lectureships are by no means one-sided. It often has happened that an investigator has been getting lost in the details and ramifications of his problem, when, suddenly called on to present the gist of his results in a semi-popular way, he has been obliged to look over his ground from an entirely new point of view, which has made visible new and straighter paths, or disclosed early strayings and blunders. In making his explorations clear to the uninitiated, the investigator often illuminates some dark part of the road for himself. The scope of this second series of lectures of the Harvey Society is shown by the titles and the lecturers, which we quote below. Some of them appeared in THE JOURNAL, in which case they are followed by the date of the issue in which they appeared. "The Principles of Vaccine Therapy," by Sir A. E. Wright (Aug. 10, 1907); "Bacteriologic Infections of the Digestive Tract and the Intoxications Arising Therefrom," by C. A. Herter (March 23, 1907); "Vasomotor Relations," by W. T. Porter; "The Myelins and Potential Fluid Crystals of the Body," by J. G. Adami (Feb. 9, 1907); "The Factors of Safety in Animal Structure and Animal Economy," by S. J. Meltzer (Feb. 23, 1907) "Metabolism During Inanition," by F. G. Benedict; "Recent Studies of Heredity," by E. B. Wilson (May 11, 1907); "Variations in the Genitourinary Tract," by G. S. Huntington; "Changes in the Lymphoid Tissue in Certain of the Infectious Diseases," by W. T. Councilman (March 30, 1907); "Nervous Disorders of the Heart," by Friedrich Müller; "Problems of Sanitation," by Edwin O. Jordan (Feb. 15, 1908). These lectures are all excellent and valuable. Every physician who reads Dr. Meltzer's clarifying discussion of the factors of safety, by which the body is spared from harm through accident and disease, will have an insight into physiologic pathology that will greatly help his judgment in considering every case of disease and accident he confronts.

PIROPLASMA CANIS AND ITS LIFE CYCLE IN THE TICK. By Captain S. R. Christophers, M.B., I.M.S., No. 29 of the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Paper. Pp. 83. Price 3s. Calcutta: Office of the Superintendent of Government Printing, India, 1907.

This is an excellent piece of investigative work showing conclusively that piroplasmosis of the dog in India is transmitted by *Rhipicephalus sanguinis* (Latreille); whereas in South Africa it is transmitted by *Hæmaphysalis leachi* (Audouin), as determined by Lounsbury. The infection is hereditary in the tick, the fact being noted that only the nymphs and adults from an infected female are infective, the larvæ not being able to produce the disease. The probable methods of evolution of the parasite in the blood are discussed, the author being of the opinion that a quotidian evolution occurs, in many cases, at least. The course of infection and the evolution of the parasite in the tick was also studied. In the gut it soon assumes the club-shaped form. This form infiltrates the body generally, including the salivary glands, and in the meantime has been changed into the spherical "zygotes," which commonly are intracellular. The latter form one or more "sporoblasts," each of which generates a rather large number of "sporozoites," this being the form inoculated into the dog by the tick. In relation to the parasite of coast fever, Koch had described long protoplasmic processes in the gut of the tick. Christophers failed to identify these forms in *Piroplasma canis*. The parasite is described as occurring in the ova of infected ticks, also in the larvæ, and its evolution during the molting process is presented. The works of Nutall and Smith, and others, on *P. canis*, and the disease it causes, is confirmed in many respects, and certain new observations are added. In addition, the general features of piroplasmosis of different animals are portrayed. Three excellent plates are included.

CLINICAL LECTURES, THIRD SERIES, THE BORDERLAND OF EPILEPSY. By Sir William R. Gowers, M.D., F.R.C.P., F.R.S., Hon-Fellow R. Coll. Phys., Ireland. Cloth. Pp. 121. Price, $1.25. Philadelphia: P. Blakiston's Son & Co., 1907.

Certain conditions more or less related to or resembling epilepsy in some of their manifestations are considered by Gowers in this volume. In cardiac syncope he sees considerable evidence of an essential identity of the process in the nerve elements with that in some epileptic conditions and that one may pass into the other in certain cases. Similarly those peculiar attacks which seem to depend on disturbance of the vagus functions, are considered by him as also sometimes on the borderland of epilepsy, and epilepsy and aural vertigo closely approach each other in some of their manifestations. In migraine, on the other hand, Gowers sees little to indicate any definite relations; though epilepsy may develop from migraine as an indirect consequence of the effect of the intense pain and associated cerebral disturbance. The disturbances of sleep, somnambulism, etc., also come under consideration in this work as borderline states, though their connection with epilepsy is not very well defined. Some forms of tic, which have been reckoned by some as associated with or allied to epileptic conditions, are not here included, but the omission is hardly important. With the description of each borderland malady some remarks on treatment have been appended, which, coming from such an authority, will be appreciated.

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[2] THE JOURNAL A. M. A., Oct. 19, 1907, 1381.

Treatment of Diseases of Children. By G. A. Sutherland, M.D., F.R.C.P., Physician to Paddington Green Children's Hospital. Second Edition. Pp. 311. Cloth. Price, $2.00. New York: Oxford University Press, 1907.

This is a small book, necessarily superficial and therefore unsatisfactory. There is too little detail, so important in the management of infants and children. For example, only sixteen pages are devoted to the important subject of infant feeding. But while this lack of detail applies to the book as a whole, there are exceptions in certain parts of the work Considerable attention, for instance, is devoted to the apparently trivial subject of a "cold in the head," with a view to preventing the establishment of a chronic rhinitis and the development of adenoids. Apropos of the latter subject, we can not agree with the author that in a considerable number of cases operated on there is a recurrence of the growths. The "let alone" treatment of pneumonia is much to be commended, as is also the surgical treatment of empyema. We regret, however, to see no mention of the "colony" management of epilepsy. The book closes with 4 pages of "shotgun" prescriptions, always out of place in a work on pediatrics, and all the more to be regretted here when in the body of the book the author insists on diet and general measures.

Protozoa and Disease. By J. Jackson Clarke, M.D Lond., F.R.C.S., Formerly Pathologist to St. Mary's Hospital and Curator of the Museum, Demonstrator of Bacteriology, and Provisional Teacher of Biology in the Medical School. Part II. Cloth. Pp. 137, with illustrations. Price, $2.50. New York: William Wood & Co., 1908.

This is the work of an enthusiast who feels keen interest in establishing the protozoan origin of certain infectious diseases. The point of view leads inevitably to a somewhat uncritical survey of the evidence. The enormous mass of recent work on diseases known, or presumed to be due to protozoa, is only incompletely represented. We note, for example, that in the chapter on ticks no mention is made of Rickett's important papers on Rocky mountain spotted fever. Misprints of proper names, such as "Stegomeia" (p. 3), "McNeil" (p. 23) and "Levatadi" (p. 65) are not uncommon.

Nursing the Insane. By Clara Barrus, M.D., Woman Assistant Physician in the Middleton State Homeopathic Hospital, Middleton, N. Y. Cloth. Pp. 409. Price, $2.00. New York: The Macmillan Co., 1908.

The position of an attendant or nurse in an insane hospital is a peculiar one requiring not only special instruction, but also special aptitude. The first of these can be given, the latter is a natural gift. Lacking it, however, much can be done to produce fairly satisfactory attendants from well intentioned, though not specially adapted, individuals and this book includes much that is available for this purpose. The instructions are addressed particularly to women, but, as the author says, they can readily be made applicable to either sex. The information on the forms of insanity, etc., and the chapters on psychology, may seem superfluous for ordinary attendants, but their perusal will do no harm and may serve to sharpen the observing faculties.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

INCUBATION OF GELATIN AND CULTURE OF BACILLI.

Mérida, Mexico, June 19, 1908.

To the Editor:—1. Will you please inform me how Dr. Rivas is able to incubate gelatin at 37 C. without liquefaction, as is mentioned in The Journal, May 9, 1908, page 1493? It would be most interesting to know the formula of the gelatin, as the solution of that problem would be welcomed by all bacteriologists, especially those who are working in tropical countries.

2. I should also want to be assured that I rightly understand the differentiation Test No. 1 of Dr. Rivas' that the culture of bacteria behaves exactly like the uninoculated dextrose bouillon.

Harold Seidelin, M.D.

Answer.—1. Incubation of gelatin is performed with the full knowledge that it will liquefy at 37 C., but the ferments produced by bacteria act more rapidly at that temperature and liquefaction will occur more rapidly. If liquefaction has occurred at the end of the incubation period, whatever that may be, it will be shown by the fact that gelatin tubes immersed in ice water will not solidify as the control tubes will, or as tubes of culture of non-liquefying organisms, for instance *Bacillus coli communis*.

2. Dextrose bouillon cultures of *B. coli communis* and uninoculated dextrose broth as a control will give a canary color after boiling about 0.5 c.c. of it in about 5 c.c. of a 10 per cent. sodium hydroxid solution, whereas the saccharolytes will produce a magenta or purplish color with the same reagent.

MUSCULAR RE-EDUCATION IN TABES.

———, Maine, June 29, 1908.

To the Editor:—Please give me references to articles describing Fraenkel's method of re-educating the muscular system in tabes.

X. Y. Z.

Answer.—The name of the author referred to is Frenkel and not, as erroneously given in some text-books, Fraenkel. One prominent author refers to him as Fraenkel of Berlin, when, in fact, Frenkel lives at Heiden, Switzerland. The following articles may be referred to:

Frenkel, H. S.: *Münch. med. Wchnschr.*, 1890, No. 52.
Frenkel, H. S.: *Deutsch. med. Wchnschr.*, 1896.
Hatschek, R.: *Wien. klin. Rundschau*, XVIII.
Frank: Mistakes in the Exercise Treatment of Tabes and Their Consequences, *Wien. klin. Wchnschr.*, xvi, 42; abst. in The Journal A. M. A., Jan. 23, 1904, p. 278.
Frenkel, H. S.: Principles of Exercise Treatment of Tabes, *Berl. klin. Wchnschr.*, xlii, 23, abst. in The Journal A. M. A., July 22, 1905.

THE MORO TUBERCULIN TEST.

Pasadena, Cal., June 30, 1908.

To the Editor:—Please give references to literature on the Moro method of percutaneous introduction of tuberculin for diagnostic purposes.

Josephine A. Jackson.

Answer.—Moro, E.: Diagnostic Cutaneous Reaction After Rubbing with Tuberculin Salve, *Münch. med. Wchnschr.*, Feb. 4, 1908; abstracted in The Journal, March 14, 1908, p. 924.
Lignieres and Benjamin, H.: Specific Reaction to Tuberculin Rubbed into Shaved Skin. *Bull. de l'Acad. de méd.*, Feb. 18, 1908.
Heinemann, H.: Harmlessness and Superiority of the Tuberculin Salve Reaction Over the Ocular Reaction, *Münch. med. Wchnschr.*, March 17, 1908.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 11, 1908:

Bingham, E. G., capt., M. C., relieved from duty at Army Gen. Hospital, San Francisco, and ordered to Ft. Porter, N. Y., for duty.

Van Dusen, J. W., capt., M. C., granted leave of absence for one month, about October 1.

Snyder, H. McC., lieut., M. C., ordered from Army Gen. Hosp., San Francisco, Cal., to Ft. Rosecrans, Cal., for temporary duty during absence on leave, of Capt. P. W. Huntington.

Ford, J. H., capt., M. C., ordered to accompany troops from Ft. Wm. Henry Harrison, Mont., to duty at American Lake, Wash.

Dale, F. A., capt., M. C., ordered to accompany troops from Ft. Lincoln, N. D., to duty at American Lake, Wash.

Ashburn, P. M., Greenleaf, H. S., Webb, W. D., Gilchrist, H. L., Loving, R. C., Heysinger, J. D., Tefft, W. H., Culler, R. M., Humphreys, H. G., Truby, W. F., Hess, L. T., Winn, R. N., Pierson, R. H., Brown, O. G., Smith, L. L., Owen, L. J., Weed, F. W., Freeman, P. L., Wolfe, E. P, Marrow, C. E., Lyster, T. C., Snoddy, C. A., Siler, J. F., Miller, E. W., Zinke, S. G., Brown, H. L., captains, M. C., and Bruns, E. H., and Cole, C. L., lieutenants, M. C., ordered to report at Washington, D. C., for examination for promotion.

DeLaney, M. A., capt., M. C., will take station at Philadelphia, until further orders, to examine applicants for Medical Reserve Corps.

Ashburn, J. K., contract surgeon, ordered to accompany troops from Ft. Assinniboine, Mont., to duty at American Lake, Wash.

Parkman, W. E., contract surgeon, ordered to accompany troops from Ft. Missoula, Mont., to duty at American Lake, Wash.

Chambers, W. H., dental surgeon, granted leave of absence for one month.

Casaday, G. H., dent. surg., left Presidio of Monterey, Cal., and arrived at Army Gen. Hosp., San Francisco, for duty.

Navy Changes.

Changes in the Medical Corps U S Navy:

Lue, J. F., surgeon detached from the *Pennsylvania* and ordered to report before a naval retiring board at the Navy Yard, Mare Island Cal, July 10, for examination for retirement, and then, to the naval hospital at that place for treatment

Freeman, J F, P. A surgeon, detached from the Navy Yard, Boston, and ordered to the *Montana*, when commissioned

Payne, J H, P. A surgeon, detached from the Naval Recruiting Station, Cleveland, Ohio, and ordered to the Navy Yard Boston, and to additional duty in connection with fitting out the *Salem*

White, E C, asst-surgeon, ordered to the Naval Recruiting Station, Cleveland, Ohio

Hoen, W. S, P A surgeon, detached from the *California* and ordered to continue treatment at the Naval Hospital, Mare Island, Cal

McDonnell, W N, P A surgeon, detached from the *Severn* and ordered to Camp Perry, Ohio, July 5, for duty in connection with the Navy rifle team

Allen, A. H, asst surgeon Camp Columbia will proceed to Sancti Spiritus, Cuba, for [illegible] on E C White

White, E C, as[illegible] urther duty in Cuba and ordered to com[illegible] orders of May 29

Old E H H, asst surgeon, detached from the Naval Hospital, Cavite P. I, and ordered to Washington, D C, for examination for promotion and then to wait orders

Blackwell, E M, and Snyder, J. J., surgeons, commissioned surgeons from March 4, 1908

Stalnaker, P R, P A surgeon, commissioned P A surgeon from May 3, 1908

Smith, F W, asst surgeon detached from the *Wisconsin* and ordered to report to the Commander, third squadron Pacific Fleet, for duty

Koltes F X, asst surgeon detached from the *Connecticut* and ordered to report to the commander, third squadron, Pacific Fleet, for duty

Flint J, asst surgeon, detached from the *Wilmington* and ordered to the *Connecticut*

Eytinge, E J O, asst surgeon, detached from the *Concord* and ordered to the *Illinois*

Higgins, M E, asst surgeon detached from the *Illinois* and ordered to report to the Commander, Third Squadron, Pacific Fleet, for duty

Winn, C K asst surgeon detached from the *Villalobos* and ordered to the *Missouri*

Steele, J M medical inspector to be placed on the retired list Sept 18, 1908 after completion of 30 years' service, in accordance with a provision contained in the naval appropriation act of May 13 1908

Taylor, J L, P A surgeon, commissioned P A surgeon, from Dec 17, 1907

Mann, W L Jr, acting asst surgeon, appointed an acting asst-surgeon from July 1, 1908

Bishop, L W, P A surgeon detached from the Naval Recruiting Station, Indianapolis, and ordered to the Naval Recruiting Station, Denver

Fiske, C N, P A surgeon ordered to the Naval Recruiting Station Boston, and to additional duty in attendance on officers of the Navy and Marine Corps residing in Boston not otherwise provided with medical attendance

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service, during the week ended July 10, 1908:

SMALLPOX—UNITED STATES

Alabama Mobile, June 13 20 7 cases

California Los Angeles, June 13 20, 1 case, San Diego to June 13 100 cases, estimated and mainly in vicinity of the Pala Indian Reservation; San Francisco, June 13 20, 4 cases

Iowa Davenport June 1 30 3 cases, Sioux City, 2 cases

Kentucky Covington, June 20 27, 3 cases, Louisiana New Orleans June 20 27, 5 cases, 1 death

Missouri. Conway, April 20 May 24, 29 cases, Kansas City, June 20 27 1 case

Ohio Cincinnati, June 19 26, 4 cases; Dayton, June 20 27, 1 case Troy, to July 3, 28 cases

Rhode Island Pawtucket June 12, 1 case.

Tennessee Dickson, June 12, 9 cases

Texas: San Antonio Jan 20 27, 1 case

Vermont Whiting, May 5, 1 case

Washington Spokane, June 13 20 17 cases

West Virginia Moundsville, June 17 July 2, 1 case.

Wisconsin La Crosse, June 20 27, 3 cases

SMALLPOX—INSULAR

Porto Rico: Mayaguez, June 6 20, 4 cases.

SMALLPOX—FOREIGN

Canada: Halifax Jan. 13 20, 6 cases

China: Amoy (Kulangsu), April 6 May 16, present; Foochow, May 23 June 6, present; Shanghai, May 18 24, 3 deaths

Cochin China: Cholon, May 23 30, 5 cases 1 death

Ecuador: Guayaquil, May 23 30, 4 deaths.

Egypt Cairo, May 27-June 3, 6 cases 2 deaths

Germany: General, May 30 June 6, 6 cases

Java: Batavia, May 2 30, 14 cases, 1 death

Portugal: Lisbon, May 30 June 13 10 cases

Russia: Moscow, May 23 June 6, 69 cases, 27 deaths; Riga, June 6 20 5 cases; St Petersburg, May 16 June 6, 40 cases, 33 deaths

Siberia: Vladivostock, May 5-14, 1 case

Turkey: Bagdad, May 30 June 6, 20 cases, 2 deaths

PLAGUE

Chile: Antofagasta, May 24, 24 cases 2 deaths; Arica, May 27, present; Iquique, May 26 11 cases, 1 death

China: Foochow, May 30 June 6 present

Cochin China Cholon, May 23 30 5 cases, 3 deaths; Saigon, May 9 30, 16 cases 15 deaths

Ecuador: Guayaquil, May 23 30, 10 deaths.

Egypt: General, May 27-June 2, 42 cases, 16 deaths; June 3 9, 36 cases, 26 deaths; Alexandria, May 29 June 10, 5 cases, 3 deaths

Mauritius: Port Louis May 1-31, 2 cases, 2 deaths

Peru: General, May 30 June 6, 38 cases, 11 deaths; Callao, 7 cases, 2 deaths; Lima, 3 cases, 4 deaths

Straits Settlements Singapore, May 9 16, 1 death

Turkey: Bagdad, May 30 June 6 11 cases, 6 deaths.

Venezuela: Caracas, June 10 12, 5 cases, 1 death.

YELLOW FEVER—INSULAR

Porto Rico: San Juan, July 8 1 case on S S *Julia* from Santiago

YELLOW FEVER—FOREIGN.

Brazil: Manaos, May 23-30, 2 cases, 2 deaths; Para, May 30 June 6, 4 cases, 4 deaths

Cuba: Daiquiri, July 6 9, 3 cases, 1 death; Santiago, July 4, 1 case

Ecuador: Guayaquil, May 23 30 1 case

Mexico: Laguna de Terminos, June 27, 2 cases; Veracruz, July 7, 1 case, 1 death.

CHOLERA

Cochin-China: Cholon, May 23 30, 23 cases, 22 deaths; Saigon, May 9 30, 71 cases, 63 deaths

Straits Settlements Singapore, May 9 16, 2 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A State President on the Need of Public Instruction.

In his address as president of the Utah State Medical Association, Dr. H. D. Niles of Salt Lake City, Utah, said in part:

> Before we can reasonably expect the public to seek or accept any counsel or opinions of the medical profession or to give us any substantial support, we must first make plain to them their needs and our ability to supply these needs. We must prove that we deserve their aid and support, and that they stand in urgent need of our technical knowledge. We have not only to preserve a high standard of education for ourselves, but we must share our education with the well-meaning, *in these matters a misguided*, public. The fallacious ideas and strange misconceptions that prevail concerning the medical profession and its work have influenced the laity to ignore our proffered assistance and to assume with apparent unconcern the sole responsibility of quickly settling or lightly dismissing some of the most vitally important technical questions the civilized world has ever been called on to consider.

After pointing out a number of instances in which the trained advice of physicians is needed but ignored, Dr. Niles says.

> It must be admitted that we are to a large extent responsible for these unfortunate relations, and we must, so far as we are able, take prompt and effective steps to correct them The public should know more of us, our work and progress, our achievements in science and our well-grounded hopes for the future. They have a perfect right to demand that we place before them our credentials before we insist that they give us their full confidence. For many generations the public has been taught to believe that a doctor's education was confined to the memorizing of numberless drugs and symptoms, and that the practice of medicine consisted, as its name implies, in an attempt to relieve distressing symptoms by the empirical administration of various medicines supposed to have mysterious remedial powers They have thought of surgeons as men who cut up human beings and who were ready and willing to practice their art, with or without provocation, whenever and wherever the opportunity offered Comparatively few of the laity have had any opportunity to learn even a measure of the truth concerning scientific medicine, and those who devote their lives to its study and practice. . . . Rarely has the public press contained any medical articles of real merit, and even these few have too often been written by those who sought personal notoriety rather than to instruct the public. . . . The quack advertisements that occupy so much space in our papers and magazines . . . exercise the most potent as well as the most pernicious influence in the molding of the opinions of the masses. All these demoralizing influences have served to strengthen people in their superstitious faith in the miraculous, and to weaken their confidence in rational medicine and scientific methods . . . When the general public learn from trustworthy statistics that not less than 500,000 men, women and children died last year from preventable dis-

> cases . . . they will surely be impressed that they stand in distressing need of the wisest counsel and most effective aid . . . and will welcome any plan of cooperation from the medical profession that promises to bring blessings to mankind. . . . Our duty is clear. A systematic educational campaign should be commenced at once and kept up until the public is brought into close sympathy with the medical profession. . . . The more we study these questions the more evident it becomes that a large portion of all human maladies are due to ignorance or wilful negligence. . . . The ignorant should be taught and the wilfully negligent be restrained by popular sentiment, if possible—by stringent laws if necessary. . . . The time has come in the evolution of scientific medicine when we must educate the people through that greatest of all educators, the public press.

Public Health Planks in Political Platforms.

For the information of those interested in the proposed national health department, we give the various planks adopted by the different political conventions which have taken action on this subject. The Ohio State Republican Convention, which met in Columbus in May, 1908, adopted the following:

INCREASED FEDERAL CONTROL OF THE PUBLIC HEALTH.

> We advocate the organization of all existing national public health agencies into a single national health department with such improved status, increased powers and ample financial support as will give the Federal Government the strongest possible control over all national public health interests.

INCREASED STATE CONTROL OF THE PUBLIC HEALTH.

> We advocate (1) the extension of the powers of the state in relation to the public health by the appointment in each county of a deputy health officer vested with powers to give safe and adequate sanitary protection to the residents of the country and village districts; (2) sanitary control of all sources of public water supply; (3) a complete system of registration of births and deaths; (4) the enactment of a stringent pure food law, including the rigorous control of all milk supply; and (5) a campaign against the prevalence of tuberculosis.

REPUBLICAN PLANK.

The following plank was submitted to the committee on resolutions of the Republican National Convention at Chicago:

> We endorse the movement designed to secure the organization of all existing national public health agencies into a single national health department, and favor such legislation as will effect this purpose.

This plank was materially changed in the committee, and appears in the platform as follows:

> We commend the efforts designed to secure greater efficiency in the national public health agencies, and favor such legislation as will effect this purpose.

DEMOCRATIC PLANK.

The following plank was submitted to the committee on resolutions of the Democratic National Convention at Denver:

> Believing a vigorous, healthy population to be our greatest national asset and that the growth, power and prosperity of the country depend primarily on the physical welfare of its people and on their protection from preventable pestilences of both foreign and domestic origin and from all other preventable causes of disease and death, including the sanitary supervision of factories, mines, tenements, child labor, and other places and conditions of public employment or occupation involving health and life, we advocate the organization of all existing national public health agencies into a national bureau of public health, with such powers and duties as will give the Federal Government control over public health interests not conserved by and belonging to the states, respectively.

This plank also underwent considerable change before it appeared in the final draft of the platform. As adopted, the plank reads as follows:

> We advocate the organization of all existing national public health agencies into a national bureau of public health with such power over sanitary conditions connected with factories, mines, tenements, child labor and other such places as are properly within the jurisdiction of the Federal Government and do not interfere with the power of the states controlling public health agencies

While the phraseology of both of these planks, and especially that one adopted by the Republican Convention, leaves much to be desired, yet it is encouraging to note that for the first time in our political history each of the two great political parties has added a public health plank to its national platform. The plank as first proposed for the Democratic National Convention is the most satisfactory of any yet drafted. Efforts should be made by all members of the profession, and particularly by all members of the Auxiliary National Legislative Committee, to secure the introduction of this plank into state conventions of both parties and to secure its adoption wherever possible.

The Work of One State Society.

In his presidential address delivered at the annual meeting of the Medical and Chirurgical Faculty of Maryland, Dr. Charles O'Donovan, after discussing the experience of this state society in securing legislation in Maryland during the past winter, refers to the number of physicians who are members of the legislature, and says:

> It is to be hoped that this is the beginning of a worthy movement, which has been urged again and again on physicians in this country, and which should engage our attention most earnestly at this time when an immense wave of progress toward better conditions of health is sweeping irresistibly over the land, and the people are at last awakening to the full realization of the possibilities of preventive medicine. When they learn how much easier and cheaper it is to keep a man well and useful, than it is to treat and nurse him through a serious illness and long convalescence of enforced idleness, then will be heard an insistent demand for the improved administration of public health matters for which doctors have striven during the last fifty years. That time is surely coming, and we must prepare for it by placing ourselves in the vanguard of progress, ready to lead and direct the people in their groping toward the light of health. Inasmuch as a great deal of this must be accomplished through general or local legislation, there should be public-spirited physicians who stand prepared to do their share in the work at any personal sacrifice or inconvenience, either as advisors of those making or administering the laws, or even as lawmakers themselves. . . .
>
> Another thing of the utmost importance that became apparent this winter was the excellent solidarity of the medical profession throughout the state. With a few hours' notice, we were able to assemble before any committee that gave a public hearing a sufficient number of representative doctors at any time, and when we wished, we could bring men from every part of the state to speak for the various county societies. . . . The united medical profession has this winter exerted a greater influence in the legislature than ever before and what we have been able to accomplish has been entirely for the benefit of the citizens of Maryland. This work has only been begun, the foundation has been well laid, but the superstructure must be reared, over which trained men must watch as the building grows.

The experience of the profession in Maryland, where thorough organization obtains, is in striking contrast with that of its sister state of Virginia, in which, owing to lack of adequate organization, the much-needed vital statistics act, advocated by the medical profession, was defeated by a lobby of undertakers, who were unwilling to take the trouble to secure burial permits, and who, consequently, defeated the bill.

Referring to the public lecture course instituted by the state faculty in Maryland last winter, Dr. O'Donovan says:

> The faculty embarked on this enterprise with considerable trepidation . . . but with the opinion that there was a demand for such a course. The result amply justified this conclusion, for on two occasions we had audiences of about 500 people, and at every lecture the attendance was sufficient to show that the public is anxious to learn more about health matters and is willing to patronize such efforts at enlightenment as we gave. I feel sure that a similar course of lectures next year will be even more popular.

This is in accordance with the experience of other medical societies in the larger cities. As reported in THE JOURNAL last week, the public lectures held in Chicago under the management of the Chicago Medical Society during the past year had an average attendance of 140 and a maximum attendance of 350.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eleventh Month.

DISEASES OF THE KIDNEY.

First Weekly Meeting.

Anatomy of the Kidney.
Physiology of the Kidney.
Composition of Urine.

Second Weekly Meeting.

Uremia.
  Etiology.
  Symptoms.
Hematuria and Hemoglobinuria.

Third Weekly Meeting.

Movable Kidney.
Acute Nephritis.
Chronic Parenchymatous Nephritis.

Fourth Weekly Meeting.

Albuminuria.
Chronic Interstitial Nephritis.
Nephritic Colic.

Monthly Meeting.

Necessity of Routine Examination of the Urine.
Differential Diagnosis of Coma.
Early Diagnosis and Treatment of Chronic Nephritis.

FIRST WEEKLY MEETING.

Anatomy of the Kidney.

Exhibit Fresh Specimens.

Kidney: Situation. surface markings. important relations, size. weight. surfaces. borders and extremities. Relation of structures entering hilum.

Structure: Capsule. hilum. sinus. pelvis, calyces, pyramids. Cortical portion. medullary substance.

Microscopic Anatomy: Uriniferous tubule; trace from capsule to pyramid. Structure of tubule, character of epithelium in different portions. Renal vessels: *trace from* renal artery to vein. three sets of veins. Difference in afferent and efferent vessels of Malpighian tufts. Relation of artery. vein and tubule in kidney.

Nerve supply of kidney. Lymphatics.

Physiology of Kidney.

Secretion of Urine: Ludwig's theory. Bowman-Heidenhain theory. Function of glomerulas, blood pressure and pressure of urine in capsule. Effect (1) of increasing general arterial pressure. (2) of obstructing venous outflow. (3) of obstructing ureter.

Function of convoluted tubule. Character of epithelium, secretory or absorptive. Facts in favor of absorption. in favor of secretion.

Action of diuretics. Due to increase of blood pressure or direct stimulation of epithelium? Vasodilator and vasoconstrictor nerves.

Composition of Urine.

Physical characteristics. More important elements found. Nitrogen: origin. per cent. of proteid intake. 1. Urea nitrogen; per cent. of total, origin, where produced, importance. 2. Ammonia nitrogen; per cent., significance. 3. Creatinin nitrogen; origin. effect of exercise. 4. Purin body nitrogen: chemical relation of purin nucleus, hypoxanthin. xanthin and uric acid. Exogenous and endogenous origin of purin material.

Elimination of inorganic salts.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CALIFORNIA State Board of Medical Examiners, Cooper Medical College, San Francisco, August 4-6. Secretary, Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

NEBRASKA *State Board of Health*, State Capitol Building, Lincoln. August 5-6. Secretary, Dr. E. J. C., Sward, Oakland.

Illinois April Report.

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, April 15-17, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 54, of whom 48 passed and 6 failed. The following colleges were represented:

College.	Year. Grad.	Total No. Examined
PASSED.		
George Washington University	(1905)	1
American Med. Miss. Coll.	(1903) (1906) (1907)	3
Chicago Coll. of Med. and Surg.	(1908)	5
College of P. and S., Chicago	(1898) (1902) (1906) (2, 1907) (1908)	6
Illinois Med. Coll.	(1908)	2
Northwestern Univ. Med. School	(1907)	2
Rush Med. Coll.	(1906) (18, 1908)	19
Indiana Med. Coll.	(1906)	1
University of Michigan	(1871)	1
Detroit Coll. of Med.	(1896)	1
Missouri Med. Coll.	(1886)	1
University of Virginia	(1865)	1
Bohemian University of Prague, Austria	(1906)	1
National University of Athens, Greece	(1905)	1
University of Palermo, Italy	(1906)	1
Royal University of Naples, Italy	(1903) (1907)	2
FAILED.		
Indiana Med. Coll.	(1907)	1
Jenner Med. Coll.	(1906)	1
National Med. Univ., Chicago	(1906) (1908)	2
Medical College of Indiana	(1892)	1
University of Michigan	(1872)	1

Florida April Report.

Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of the State of Florida, reports the written examination held at Ocala, April 13-14, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 30, of whom 27 passed and 3 failed. The following colleges were represented:

College.	Year. Grad.	Per Cent
PASSED.		
Southern Medical College, Atlanta	(1894)	91.6
Atlanta School of Med.	(1907)	77.6
Atlanta College of P. & S.	(1906)	88.4
University of Georgia	(1906)	84.2
College of P. & S., Chicago	(1906)	78.6
American Med. Miss. Coll.	(1900)	80.6
Illinois Med. Coll.	(1901)	89.4
University of Louisville	(1907)	89.7
Tulane University of Louisiana	(1903)	85.2
University of Maryland	(1907)	91.7, 95.
Baltimore Medical College	(1890)	81.4
University of Michigan	(1902)	93.
Detroit College of Medicine	(1900)	78.1
Medical College of Ohio	(1895)	83.2
Miami Medical College	(1880)	83.
Dartmouth Medical College	(1896)	95.
Bellevue Hosp. Med. Coll.	(1893) 86.7; (1898)	85.
University of the South	(1906) 81.2; (1907)	79.2
University of Tennessee	(1907)	80.1
Memphis Hosp. Med. Coll.	(1901)	75.
Medical College of South Carolina	(1907)	86. 95.
University College of Medicine, Richmond	(1905)	86
Name of College not Obtained	(1907)	85.7
FAILED.		
Baltimore Med. Coll.	(1907)	66.7
Memphis Hosp. Med. Coll.	(1903)	67.7
Castleton Medical College	(1857)	35.

New Mexico January and April Reports.

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examinations held at Santa Fé, Jan. 13 and April 13, 1908. The number of subjects examined in was 12; percentage required to pass, 75.

At the examination held in January, the total number of candidates examined was 4, of whom 3 passed and 1 failed. Fifteen applicants were licensed on presentation of satisfactory credentials. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Kansas	(1906)	75.
Louisville Med. Coll	(1907)	75.
Ft. Worth University	(1901)	75.

FAILED.

College.	Year. Grad.	Per Cent.
Tennessee Med. Coll	(1906)	35.

LICENSED ON CREDENTIALS.

College.	Year of Grad.
Woman's Hospital Med. Coll., Chicago	(1890)
Rush Med. Coll	(1904)
Chicago Homeo. Med. Coll	(1889)
Louisville Med. Coll	(1878) (1886) (1889)
University of Louisville	(1893)
Tulane University of Louisiana	(1896)
University of Michigan	(1890)
St. Louis Med. Coll	(1882)
Kansas City Med. Coll.	(1898)
Bellevue Hosp. Med. Coll., New York City	(1894)
Eclectic Med. Institute, Cincinnati	(1875)
University of Tennessee	(1891)
Jefferson Med. Coll	(1882)

At the examination held in April the total number of candidates examined was 10, all of whom passed. Thirty-two applicants were licensed on presentation of satisfactory credentials at this meeting. The following colleges were represented:

PASSED.

College.	Year of Grad.
University of Alabama	(1904)
Birmingham Med. Coll	(1908)
Denver and Gross Coll. of Med	(1906)
Northwestern Univ. Med. School	(1907)
University of Kansas	(1906)
University of the South	(1901)
Chattanooga Med. Coll	(1901)
Memphis Hosp. Med. Coll	(1900)
Kansas City Hahnemann Med. Coll	(1907)
Gate City Med. Coll	(1902)

LICENSED ON CREDENTIALS.

College.	Year of Grad.
Georgetown University	(1896)
College of P. and S., Chicago	(1903)
Northwestern Univ. Med. School	(1901) (1902)
Rush Med. Coll	(1878) (1890) (1905)
Central College of P. and S., Indianapolis	(1904)
College of P. and S., Keokuk	(1876) (1898) (1900)
Drake University	(1886)
Kentucky University	(1905
Baltimore Med. Coll	(1906)
College of P. and S., Baltimore	(1894)
University of Maryland	1878)
University of Michigan	(1889)
Kansas City Med. Coll	(1899)
College of P. and S., Kansas City	(1903)
University Med. Coll., Kansas City	(1896) (1904)
Missouri Med. Coll	(1880)
Barnes Med. Coll	(1895) (1898) (1899) (1907)
St. Louis University	(1903)
Long Island College Hospital	(1893)
Western Reserve University	(1888)
Jefferson Med. Coll	(1884) (1900)
Medical Coll. of Virginia	(1897)

Nevada May Report.

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 4-5, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Six reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Coll. of P. and S., San Francisco	(1901) 80.7; (1907)	87.5, 91.7
Medical College of Ohio	(1883)	75.2

LICENSED THROUGH RECIPROCITY.

	Year Grad.	Reciprocity with
Northwestern University Med. School	(1899)	Wisconsin
Rush Medical College	(1890)	Illinois
Sioux City Coll [illegible]	(1900)	Iowa
University of [illegible]	(1905)	Kentucky
University of [illegible]	(1903)	Michigan
Wisconsin College of P. and S.	(1905)	Wisconsin

Marriages

William L. Wise, M.D., to Miss Edna SoRelle, both of Lena, La., June 2.

Oscar E. Heins, M.D., to Miss Grace Brown, both of Maysville, Mo., June 14.

James F. Hilgenberg, M.D., to Miss Grace Mix, both of Pesotum, Ill., June 17.

C. Roy Johnston, M.D., Decatur, Ill., to Miss June Riggs, Saybrook, Ill., June 24.

Harry V. Kitzmiller, M.D., to Miss Eva Lee, both of Smithshire, Ill., June 23.

Wallace M. Burroughs, M.D., to Miss May Agnes Quilter, both of Chicago, June 27.

Ralph A. Fenton, M.D., to Miss Mabel Copley Smith, both of Portland, Ore., June 24.

C. M. Jack, M.D., Niantic, Ill., to Miss Charlotte Nelson, Bloomington, Ill., June 18.

Eugene Henry Kelly, M. D., to Miss Alice F. Sams, both of Kansas City, Mo., June 13.

James Chisholm Hill, M.D., to Miss Sara Ellen Henry, both of Abbeville, S. C., June 24.

William J. Carter, M.D., Mattoon, Ill., to Miss Bessie Lockie of Galt, Ont., June 24.

John Mulloney, M.D., Philadelphia, Pa., to Miss Emily Evans of Easton, Pa., June 30.

Oral S. Robuck, M.D., to Miss Margaret Gwladys Thomas, both of Gomer, Ohio, June 24.

Lester Page Hoole, M.D., to Miss Marjory Haydock Wills, both of Brooklyn, N. Y., July 1.

Henry D. Hulley, M.D., Griswold, Iowa, to Miss Cora O. Shelby, of Odebolt, Iowa, June 22.

Ernest M. Ling, M.D., Laporte, Mich., to Miss Ella Maude Moon, of Detroit, Mich., June 30.

Lawrence J. Dervin, M.D., to Miss Alice M. Fitzmaurice, both of Somerville, Mass., recently.

James Archer Hervey, M.D., Traer, Iowa, to Miss Goldie Stiles of Des Moines, Iowa, June 23.

Henry B. Bristow, M.D., to Miss Bunnie Gresham Tyler, both of Tappahannock, Va., June 28.

Thomas Harmon Denne, M.D., to Miss Mildred Alice Gregory, both of Waterloo, N. Y., June 24.

George W. Lincoln, M.D., Camden, N. J., to Miss Effie J. Garwood of Medford, N. J., June 24.

Ellsworth G. Beers, M.D., Springfield, Mo., to Miss Ethel A. Lynn of Kansas City, Mo., June 18.

Mason Guill, M.D., Nashville, Tenn., to Miss Amanda Lipscomb of Winchester, Tenn., June 23.

Charles A. LaMont, M.D., Albion, N. Y., to Miss Eva K. Bowman, at Baltimore, Md., June 25.

William Henry Burmeister, M.D., Neihart, Mont., to Miss Jose Bergin King of Chicago, June 24.

Rastus Ransom Norris, M.D., Baltimore, Md., to Miss Lillian Horsey of Crisfield, Md., June 24.

Lawrence H. Pendergrast, M.D., to Miss Margaret Cecelia Cullen, both of Memphis, Tenn., June 24.

Ralph Rollin Chase, M.D., to Miss Belle Du Charme Ripley, both of Eau Claire, Wis., June 1.

Charles H. Muschlitz, M.D., Philadelphia, Pa., to Miss Minnie F. Roper of Slatington, Pa., June 30.

Allen Kerr Bond, M.D., Baltimore, Md., to Miss Louise Birckhead Gambrall, at Baltimore, Md., July 2.

Thomas Mulligan, M.D., Grand Forks, N. D., to Miss Margaret McQuade of Seaforth, Ont., June 24.

Thomas Houston Dow Griffitts, M.D., Springfield, Ill., to Miss Elizabeth Anne Glynn of Cairo, Ill., June 30.

John McCampbell, M.D., to Miss Maggie Thompson, both of Morganton, N. C., at Asheville, N. C., June 23.

John Wilson Fuqua, M.D., Greeley, Colo., to Miss S. Elizabeth Mathias of Cincinnati, Ohio, at Denver, Colo., June 20.

James Malcolm Miller, M.D., Villa Grove, Ill., to Miss Inez A. Whitworth of St. Louis, Mo., at St. Charles, Mo., recently.

Deaths

Frank Hugh Montgomery, M.D. Rush Medical College, Chicago, 1888, associate professor of skin, genitourinary and venereal diseases, Rush Medical College, attending dermatologist to St. Elizabeth's, St. Anthony de Padua and Presbyterian hospitals, a member of the consulting staff of Oak Park Hospital, a member of American Medical Association, American Dermatological Association, Congress of American Physicians and Surgeons, Illinois State Medical Society, and of Chicago Medical, Pathological and Medicolegal societies, co-author of "A Practical Treatise on Diseases of the Skin," "A Manual of Syphilis and the Venereal Diseases," and other works on these subjects, who had achieved national prominence as an authority in his specialty, was accidentally drowned while boating on White Lake, Mich., July 14, aged 46.

James Porter Heavrin, M.D. Kentucky School of Medicine, Louisville, 1882, a member of the American Medical Association, physician to Owensboro City Hospital, president of board of examining surgeons for U. S. Pension Board at Owensboro, died suddenly at his home in Owensboro, Ky., June 30, aged 57.

Isaac A. Wintermitz, M.D. Miami Medical College, Ohio, 1882, of Colorado City, Colo., a member of the Colorado State Medical Society, died in St. Francis Hospital, Colorado Springs, July 3, from blood poisoning contracted while treating a patient similarly affected, aged 46.

Albert Watson Sterling, M.D. Jefferson Medical College, Philadelphia, 1871, a member of the West Virginia State Medical Association, one of the oldest practitioners of Fairmont, W. Va., died at his home in that city, June 30, from locomotor ataxia, aged 59.

Florence Donohue, M.D. University of Georgetown, Washington, D.C., 1872, a veteran of the Civil War, first vice-president of the U. S. Historical Society, died at his home in Washington, D. C., June 24, after a long illness, aged 66.

Samuel Rothacker (Years of Practice, Ohio), of Richmond, Ohio, a veteran of the Civil War, died at his home in that city, June 25, as the result of injuries received in March when he was trampled under the hoofs of a horse, aged 83.

Samuel C. Primrose, M.D. Halifax Medical College, (N. S.), 1872, of Lawrencetown, N. S., one of the best known practitioners of Nova Scotia, died at the Victoria General Hospital, Halifax, of nephritis, July 1, aged 71.

Louis Avida Demers, M.D. Medical Department Victoria College, Toronto, 1874, a member of the medical faculty of Laval University, Montreal, died suddenly at his home in Montreal, June 24, from syncope, aged 58.

Hans L. Brynildsen, M.D. (Years of Practice, Minn.), a member of the American Medical Association, a practitioner of Vasa, Minn., died at his home in that city from cancer of the stomach, June 29, aged 58.

William Monroe, M.D. Rush Medical College, Chicago, 1869, a prominent citizen of Monroe, Wis., a veteran of the Civil War and Black Hawk War, died at his home in Monroe, July 3, of paralysis, aged 90.

Simon P. Snyder, M.D. Medical Department Wooster University, Ohio, 1880, a member of the Ohio State Medical Society, died at his home in Cleveland, Ohio, of heart disease, June 25, aged 56.

Alexander F. Joseph, M.D. Cincinnati College of Medicine and Surgery, 1862, of Cincinnati, who had been suffering from heart disease for some time, was found dead in his bed, July 1, aged 68.

Everett W. Woodson, M.D. University of Pennsylvania Department of Medicine, 1854, formerly a practitioner at Cuero, Texas, died at the home of his son, in San Antonio, July 1, aged 77.

Attilla M. Hutchinson, M.D. Hahnemann Medical College, Chicago, 1883, formerly of Hutchinson, Kansas, died at his home in Winfield, Kansas, of paralysis, June 28, aged about 61.

Anna Wood, M.D. Northwestern University Woman's Medical School, Chicago, 1889, of Terre Haute, Ind., died at her home in that city, July 1, after an illness of several months, aged 56.

Benjamin D. Braswell, M.D. Maryland Medical College, 1904, of Ocilla, Ga.; died at a private sanitarium in Atlanta, after an illness of several months' duration, June 24.

James H. Converse, M.D. United States Medical College, New York, 1880, of Danville, Ill., died at his home in that city, June 28, after a short illness, aged 66.

Martin S. Rochelle (Years of Practice, Kansas), of Wichita, died at his home in that city, after an illness of eleven months, from paralysis, June 25, aged 66.

J. H. Woosley (Years of Practice, Kentucky); for forty years a practitioner; died at his home, Glasgow Junction, Ky., June 30, of heart disease, aged 83.

Frank O. Culter, M.D. Pulte Medical College, Cincinnati, 1888, of Gibson City, Ill., died in Chicago, June 26, after an operation for gallstones, aged 48.

George W. Waggoner, M.D. Hahnemann Medical College, Chicago, 1882, of Corry, Pa., died at his home in that city, June 25, of nephritis, aged 51.

Orville W. True (Years of Practice, Maine); a leading homeopathic physician of Farmington, Maine; died June 27, of carcinoma of the liver, aged 54.

William H. Warner, M.D. Ohio Medical College, 1871; of Crothersville, Ind., died at his home in that city, July 5, of heart disease, aged 67.

Alexander E. Bowman (Years of Practice, Ill.), of White Hall, died at his home in that city, June 19, from senile debility, aged 91.

John Cook Shaw (Years of Practice, Mass.), of New Bedford, Mass., died at his home in that city, July 2, of diabetes, aged 51.

William T. Hubbs, M.D. University of Louisville, 1879, of Camden, Tenn., died at his home in that city, June 26, aged about 62.

Orrin I. Hall, M.D. University of Buffalo, 1873; of Zumbrota, Minn., died at his home in that city, June 25, aged 66.

Death Abroad.

E. Albrecht, M.D., director of the Institute of Pathologic Anatomy at Frankfurt a. M., died, June 20, aged 36. Notwithstanding his comparative youth, Albrecht had long taken a leading place among pathologists.

Society Proceedings

COMING MEETINGS

American Public Health Association, Winnipeg, Can., Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng., Cleveland, Aug. 27-29.
Wyoming State Medical Society, Sheridan, Aug. 28.

NEW HAMPSHIRE MEDICAL SOCIETY.

One Hundred and Seventeenth Annual Meeting, held at Concord, May 14-15, 1908

(Continued from page 163.)

A Gynecologic Report.

Dr. H. L. Stickney, Manchester, described four very complicated cases, all in women, which came under his observation at Hillcrest Hospital. Dr. Stickney stated that it had always been his custom to remove the appendix at the time of any operation on the pelvic organs, if convenient to do so, and the condition of the patient did not make it unwise.

The Loss to Physicians from Hospital Work.

Dr. A. Noel Smith, Dover, said that hospitals are a blessing, indeed a necessity to the community. The large cities are well supplied with them, but the smaller cities and towns are also getting to be well equipped. It is all right for rich men to give of their abundance to found and maintain hospitals, however, but he is firmly convinced that it is wrong for the average physician to contribute so lavishly of his means, his time, and his ability toward the success of these institutions. Men and women give of their abundance a single gift, therewith furnishing a hospital room or ward, and their names are engraved on tablets to perpetuate the fact. And this is well. The physician or surgeon bestows his gifts of time and labor, which represent money, and does this perennially. However, no note is taken of it, except an occasional vote of thanks, and thanks never yet bought shoes for the babies, or purchased horses, carriages, and automobiles which are the doctor's necessities. His only tablet is the possible gratitude of the patient who recovers, and a threatened suit for malpractice if the patient dies.

In the speaker's judgment, as in that of many other physicians, it is high time to consider and to act on the subject of some form of remuneration for the medical and surgical staffs of hospitals.

Dr. Smith cited several instances which had come under his observation, where well-to-do people had been treated and operated on free at hospitals. "And we physicians," said the speaker, "in whose hands the entire adjustment of this matter rests, stand foolishly helpless and witness our incomes thus depreciated!"

He stated that his work along this line had received the hearty approval and support of other physicians and read several letters from different members of the medical profession, indorsing his course of action in this matter; and he urged that something be done to remedy this situation by the members of the New Hampshire Medical Society.

DISCUSSION.

Dr. Louis W. Flanders, Dover, said that there seems to have been from time immemorial an unwritten law that the physician should give more of his time to philanthropic enterprises than any other member of the community.

Dr. John W. Parsons, Portsmouth, could discover no reason why a person should not pay for medical services rendered in a hospital the same as when furnished out of a hospital. In fact, in many instances, the services in a hospital are more valuable because of the environment. The physician can do better work, get better results for the patient and himself, and the physician should be paid by somebody. If a hospital has income enough to warrant it, the medical man could be paid by the corporation in the form of a salary, or, better, according to the work or its attending responsibility. It seemed to him, however, that it is a more business-like method for the patient to pay the doctor who works for him. But, before any step is taken, there should be a settled unanimity among physicians unflinchingly to support the proposition that physicians doing work at the hospital shall charge the same fees as in work outside of the hospital, collecting their bills, if they can, as in ordinary business. If the patient can not pay the standard prices, admit him or her on such terms as are just; likewise permit the physician to make similar arrangements; hospital and doctor to collect if possible. Emergency cases should be admitted without question, and the matter of pay settled according to the circumstances. But we must try to disabuse people of the notion that they can get everything for nothing from hospitals and physicians. In concluding, the speaker said: "When I do charity work, I wish to know it at the time. I do not like to find it out afterward. Compulsory charity is not charity, it is theft, and is obnoxious and irritating. Voluntary charity is felicitous and inspiring, and there is no class of men who give so much of their time and skill as the medical profession."

Dr. A. H. Harriman, Laconia, stated that in his town, by the aid of some philanthropic people, they had recently been able to start a hospital. But, before the hospital was started, all hands got together and made a solemn vow that they were not going to diminish their income, if they could help it, by reason of having a hospital, and he did not believe they had done so. Every person who had entered that hospital had been taken care of, and the charges had been just the same as if they had been taken care of at their homes or anywhere else. He did not think they had lost a great deal by charging fees, and he did not see why anyone should.

Dr. A. C. Heftinger, Portsmouth, stated that at the Portsmouth Hospital he believed there was very little of the abuse of free hospital service, and that whether the patients went into the wards or into private rooms, if they were able to pay, they paid. There was no surgical staff or medical staff at this hospital, and no specific free treatment, but each physician goes on when his turn comes, a month at a time, and is supposed to treat free patients, but during the last period of Dr. Heflinger's service he had not had one such patient.

Dr. James T. Greeley, Nashua, stated that at Nashua the suggestion of Dr. Smith and Dr. Heflinger had been followed out. the poor have always been treated gratuitously in Nashua, but it has always been insisted on that it shall be the poor who receive gratuitous treatment. Emergency cases are always received in the hospitals without question, but they are investigated afterward. Those people who receive gratuitous care are either of the city or county poor. All others pay their physicians independently of the hospital, according to their ability. In other words, there is an arrangement made directly between the attending physician and the patient, and it has worked very harmoniously. The speaker called attention to the fact that the patient who pays for his accommodation and selects his own physician to attend him, is not pauperized, which makes a difference in the feeling of *the patient, and in the patient's relation to the doctor.*

Dr. A. W. Mitchell, Epping, said that all the speakers so far had been doctors connected with hospitals. He happened to be, unfortunately, a little fellow out in a little town where there is no hospital, and he wanted to make a plea for himself and lots of others like him. He was situated about equal distance from Dover, Portsmouth, Nashua and Manchester, and so strong was the suction brought to bear from those places that he had only a little hair left on his head. The fact was that when they had sent patients into the larger towns to seek the larger and better men, great inducement had been—at least in the past, though, perhaps, not so much so now—brought to bear on those people to go into the hospitals, so that some of the physicians of those cities were now getting overburdened.

Dr. Forrest L. Keay, Rochester, suggested that if some means could be found whereby the rest of the profession could relieve some of those who were carrying so heavy a burden by doing the work for them when they had a patient to operate on, it might lighten it.

Movable Kidney.

Dr. Ernest L. Bell, Plymouth, stated that 85 per cent. of the cases of movable kidney occur in women. He suggested as a possible explanation the fact that the recess in which the kidney lies is deep and funnel-shaped in the male, while in the female it is shallow and more cylindrical. He also stated that the displacement of the right kidney is fifteen times more frequent than that of the left, and this, he thought, not to be a mere matter of coincidence, but probably due to the fact that the right kidney, with the liver superimposed, is slightly lower than the left, and is in intimate relation in its lower third with the posterior and extraperitoneal portion of the ascending colon. Through this contact with the colon a decided downward pull comes on the right kidney from the forced peristalsis of the loaded bowel during its constant effort to overcome the force of gravity in passing upward its fecal contents. Dr. Bell stated that movable kidneys are more often found in women from 30 to 40, who have worked hard and had many children, and that certain physical characteristics play an important part in predisposing to displacement, namely, abnormality, which may tend to flatten and make shallow the normal paravertebral fossæ, which explains the fact that palpable kidneys are found almost always in long-waisted, slender bodied women.

He described at length the symptoms of movable or displaced kidney, and the different methods of treatment, particularly the so-called Conant method of fixation, of which he said that the simplicity of the operation and its uniformly good results so appealed to him that he had recommended this procedure in all of his cases requiring an operation, and in none of the operations done by this method had he derived other than great satisfaction from its use. He further emphasized it as vital to the success of any operation that all the lesion coexistent with that of the kidney should be taken *care of. To anchor a prolapsed kidney and leave a diseased* appendix or gall bladder, a lacerated peritoneum or cervix was to invite failure. He described several cases.

DISCUSSION.

Dr. Gile, Hanover, stated that he was somewhat more skeptical about the great frequency of symptoms than was Dr.

Bell: that is, as to whether the subjective symptoms the patient might have were due to movable kidney, even though the kidney should be found to have greater or less mobility. He agreed with Dr. Bell that whenever an operation was performed for movable kidney, the greatest care should be exercised in investigating all other organs to see if there was not other disease, stating that he believed a great many times when a movable kidney was detectible, the subjective symptoms the patient might have depended more likely on a diseased appendix than on the mobility of the kidney. He preferred the lumbar incision.

Dr. Frank Blaisdell, Goffstown, said that personally he had never found anything better than the oblique lumbar incision for exposing the kidney, and for safe anchorage of the kidney after it had been exposed preferred one of the capsule-splitting methods. He explained the method fully. But while disagreeing with Dr. Bell as to the Conant method being the best, he acknowledged that Dr. Bell had had splendid success with it, and stated it as his opinion that individual preference had much to do with like or dislike of any particular method; that we liked a thing because we were familiar with it.

Dr. Wilkins, Manchester, commended the usual lumbar incision, opening the fascial capsule and removing the fat from inside it, and stitching the capsule tightly around the lower half of the kidney, and then packing beneath it with gauze, leaving the gauze there for two weeks. He described the advantages.

Dr. M. E. Kean, Manchester, stated that the majority of men were discontinuing the fixation of the kidney in cases of movable kidney, unless other conditions exist at the same time which require it.

(To be continued.)

AMERICAN PEDIATRIC SOCIETY.

Annual Meeting, held at Delaware Water Gap, Pa., May 25-26, 1908.

(Continued from page 158.)

A Plan of Dealing with Atrophic Infants.

Dr. Henry D. Chapin, New York, presented this paper, the essential plan of treatment being that of fresh air. Most satisfactory results were reported in cases suffering from malnutrition because of bottle feeding. He advocated obtaining individual environment for these children. Institutions and hospitals should be only a "hold up" for acute conditions, and the children should be got out of the institutions as soon as possible; they should be boarded out in the country.

DISCUSSION ON FRESH AIR.

Dr. Augustus Caille, New York, said that he was in full accord with everything expressed by the three essayists. Twenty years ago he had tried to get those in control to understand the importance of fresh air to children, but his attempts had been unavailing. At present they were using a roof garden. He believed that the breathing of fresh air was the most important therapeutic agent we possessed.

Dr. A. Jacobi, New York, referred to his experience in 1870 when he had proposed boarding out infants and had shown those in charge that of 100 patients admitted to the institution and retained there over three months 100 died. He had been asked to resign for expressing such views and finally left the institution. He approved heartily of the endeavors of Dr. Chapin in this direction and was glad he had been more successful. He believed that rachitis was due more to bad air than to bad food and advocated the fresh air treatment for that disease, which he said 50 years ago was hardly known in the United States, before emigration and poverty had existed to such an extent.

Dr. R. G. Freeman, New York, referred particularly to the fresh air treatment in measles; all the cases that had been put out had done remarkably well. He agreed with Dr. Jacobi as to rachitis.

Dr. E. M. Buckingham, Boston, reported cases of pneumonia suffering with dyspnea in the hospital and relieved by putting them out in the air even after the failure of administration of oxygen.

Dr. C. B. Putnam, Boston, said that when he first became connected with the Massachusetts Infant Asylum, 35 years ago, they were just beginning to farm out a few of the children. Now, of 125 patients, less than 25 were kept in the hospital—the rest were boarded out in the country and there had been a remarkable reduction in mortality.

Dr. L. E. LaFetra, New York, said that the objections made to the treatment in private practice could be overcome by using the inside awnings which allowed the child to breathe the fresh air without being exposed.

Dr. Charles G. Kerley, New York, said that he had been surprised at the readiness with which intelligent people took up this feature of treatment.

Dr. F. S. Churchill, Chicago, thought the people were very ready to carry out this form of treatment—much more ready than the profession at large realized. He had no difficulty whatever in private practice and in dispensary work he had assistance by having one of the nurses follow up the cases—going directly into the home and looking after them.

Dr. William P. Northrup, New York, in closing, said that as we had raised the standard of quality of milk and of the drinking water supply so we should bring into prominence this other hygienic consideration. Fresh air, he said, was so cheap that it was not appreciated. As Oliver Wendel Holmes had said:

God lent his creatures light and air and waters open to the skies;
Man locks him in a stifling lair and wonders why his brother dies.

The Need of Postgraduate Instruction in Pediatrics.

Dr. Augustus Caille, New York, said that there was still a lack of system and conformity in making a medical practitioner. As a pediatrist the average graduate was sadly deficient, unless he had had the good fortune to spend six months as an interne in a childrens' hospital. Practical instruction was urgently needed. A large ambulatory service was one of the essentials for such teaching. Bedside teaching, to be of value, should permit the student to visit the ward at a set time two or three hours each day. He thought that the broadening influence of pediatric study had not been sufficiently emphasized. There was urgent need for practical postgraduate study.

Modern Laboratory Feeding and the Wide Range of Resources Which It Provides.

Dr. Thomas Morgan Rotch, Boston, stated that what he wished to place before the profession was the result of his seventeen years' study of the advance through laboratory methods. He pointed out that the resources of the milk laboratories were such that physicians could prescribe combinations of any known food. He explained that it was no longer necessary to feed an infant with a patent or proprietary food because that food had seemed to agree best with an individual with a weak digestion. He stated that careful chemical analysis had now made us familiar with the food constituents of all the patent and proprietary foods. Consequently it was now possible to make at the laboratories exactly the same combinations as appeared in these patent foods and the prescription for these compounds could be written in percentages. He pointed out that each of the advances that had been made in the combination of the ingredients of the various food stuffs had really emanated from the chemists in charge of the milk laboratories. Of special importance, next to that of the work on the separated proteids, whey and casein, which now for some years had been obtained from the laboratories, was the possibility of prescribing the carbohydrates to a much wider extent than ever before. He explained why and how maltose was preferably used instead of lactose in cases where there was an over production of lactic acid, and how, on the contrary, where there was an over production of butyric acid, lactose was preferable to maltose. He showed how it was no longer necessary to make use of the mechanical action of the starches in making the casein precipitate final, since the divided proteid accomplished this much better and much more intelligently. He explained also how the supposed value of a well known patent food, whose chief ingredient was maltose, could be obtained on a laboratory prescription by simply prescribing dextrinized starch and thus obtaining besides maltose a residue which corresponded to that in the above mentioned food; in both cases the residue being what was claimed for the food in regard to its laxative properties. He stated that it was a mistake to think that centrifugal cream must necessarily be used in the laboratory prescriptions, and that, on the contrary, the laboratory was always willing to make up the prescribed fat combinations from gravity cream when this was asked for by the prescribing physician. One of the greatest advances, he said, which had been made within the last year in regard to the possibilities of laboratory modifications on physicians' prescriptions, when wishing to use laboratory methods, was the use of the lactic acid bacillus in pure culture. It was well known that there were a great many different strains of the lactic acid bacillus, some good and some inferior; but a strain had now been obtained and was kept at the laboratories which was exceedingly successful in killing the special ferment which produced the fermentative diarrheas; and the physician could now prescribe the pure culture of lactic acid bacillus for cases of this kind and its use had been followed by the greatest success. He also showed how, by simply prescribing a certain percentage of lactic acid this degree of acidity could be used for purposes of digestion without necessarily allowing the process to go further.

Dr. Rotch finally said that he had attempted to prepare a prescription card for the profession at large, which could be used for prescribing any compound of foodstuffs and any of the ingredients in the required percentage, and this prescription card would have on one side of it explanatory notes which would enable the physician to see at once what percentages of the different combinations should be used. He expressed his appreciation of the information which he had obtained from Prof. Howe of the State Normal School in connection with all the good work which had been lately done under his supervision at the Walker-Gordon laboratories. The prescription blank represented on one side an explanation of why each of the several compounds which could be obtained at the laboratory were used; the name of the compound came in the next column, for instance, fat, lactose, maltose, lactic acid bacillus, etc., and then percentage columns came on the other side again, in which the definite figures could be placed.

Dr. L. Emmett Holt, New York, had also been working along these lines. He had found that gastric digestion went forward largely according to the amount of HCl present. In no single one of the experiments had there been found a deficiency of pepsin in the infant's stomach, but there had been found great variation in the amount of HCl.

Dr. Henry D. Chapin, New York, also advocated the scientific application of the various diluents that had been found useful. He had also read a paper, written with the same object with which Dr. Rotch had prepared his paper, namely, to find if we could not as physicians utilize the good in them in a scientific way. He believed that the whole subject of infant feeding could only be satisfactorily studied from the biologic standpoint.

Dr. Augustus Caille, New York, respected the scientific methods but thought they could be managed only in the hands of a few persons.

Dr. J. P. Crozer Griffith, Philadelphia, was a thorough believer in all that was being done in the matter of feeding scientifically but thought it difficult to teach it in a way that would enable the average student to comprehend it.

Dr. W. P. Northrup, New York, said that the great triumph of the laboratory to his mind had been the lesson in the production of a pure milk with a known fat content of unvarying degree.

Status of the Kindergarten.

Dr. Isaac A. Abt, Chicago, said that, in reply to inquiries sent out, he had 119 replies from physicians, 66, or 55.46 per cent. in favor of the kindergarten; 25, or 21 per cent., unfavorable, and 28, or 23 per cent., indifferent. In the hope of throwing some light on the medical aspect of the kindergarten question the investigation of which the paper was a report was instituted. He had sent questions to physicians in various parts of the country and to kindergarten teachers and mothers. From the mothers there had been 70 replies; favorable 43 or 61.42 per cent.; unfavorable, 11, or 15.71 per cent.; indifferent, 16, or 22.85 per cent. Of 43 replies from superintendents, 32, or 74.41 per cent. were favorable; 5, or 11.64 per cent. unfavorable; 6, or 13.95 per cent. indifferent. Of kindergartners 26 replies; 25, or 96.15 per cent. favorable. Of 21 replies from primary teachers, 14, or 66.66 per cent., were favorable; 3, or 13.33 per cent. unfavorable; 4, or 19.03 per cent. indifferent. From the standpoint of physicians, 42 favorable and 15 unfavorable from the east; 17 favorable and 6 unfavorable from middle west; 3 favorable from the west; 2 favorable from the north, and 1 each favorable and unfavorable from the south. Twelve kindergartners wrote of proper or improper conditions existing. The best average age to commence was put at five years. Of all physicians 47.90 per cent. favored kindergarten for both rich and poor.

DISCUSSION.

Dr. Thomas Morgan Rotch, Boston, said that the chronologic age of the child should be ignored. Children should not be classified in that way, but by their development.

Dr. William P. Northrup, New York, thought that in the future pediatrists would take more interest in the kindergarten.

Dr. F. S. Churchill, Chicago, thought that the opinions about the kindergarten among medical men and a great many mothers arose from error as to its true object. The well regulated kindergarten tried to steer the mental development of the child. He feared there were too few kindergartners who properly grasped the idea. The kindergartner should be a very highly paid teacher so that a high class would be attracted to the work. The mother was not a professional trainer of children and he would prefer to put the child with a professional rather than with an amateur.

Dr. Henry D. Chapin, New York, agreed with Dr. Churchill that the kindergartners should be better paid and have a better status. The same thing was radically wrong in the public school system; teachers were graded according to the size and age of the scholars; the early age was the critical time, and yet the younger scholars had the less experienced teachers.

Dr. Charles G. Kerley, New York, thought the matter rested entirely with the nature of the child's surroundings at home; if the child could have proper outdoor life and attention at home that was by far the best place, but there was a class of children in every city to which the kindergarten was a Godsend.

The Hard Curds of Infant Stools; Their Origin, Nature and Transformation.

Dr. Thomas S. Southworth and Dr. O. M. Schloss, New York, said that the discovery that the firm, rounded curds occurring not infrequently in the stools of infants fed on cow's milk were composed in part of fatty acids and soaps had led to considerable discussion and warranted a further inquiry as to the origin of such bodies. The claim had been made of late that these bodies were simply aggregations of soaps and fatty acids containing no proteid and by implication not entitled to be called curds. This was based largely on the statements of Czerney and Kellar. Typical firm curds occurring in 75 stools passed by 38 infants were subjected to qualitative chemical tests to determine the presence of proteids, soaps and fatty acids. All of these masses responded to the tests for protein, no matter whether they were hard or soft, and regardless of the presence of soaps, neutral fat, or fatty acids; the ordinary stool substance, in which these masses were embedded, when subjected to the same procedure and tests, did not give the protein reactions.

DISCUSSION.

Dr. I. A. Abt, Chicago, thought that there was no more fertile field for investigation than this, particularly in view of the reports from the Berlin and Breslau schools, which led to the belief that there was no such thing as proteid indigestion. He had fed babies that suffered from what he supposed to be fat indigestion on perfectly fat-free milk and had found that there was in the stools a curd that corresponded to the one described by the essayist

Dr. J. Lovett Morse, Boston, said that his assistant had been at work along the same line and had gone into it very elaborately, working the matter out quantitatively as well as qualitatively, and he had found that the basis of the large curd in every case was a proteid. He had also found that the amount of fat in the curd varied almost exactly with the amount of fat in the food, showing that the fat was merely caught in the meshes of the curd. They also found these large curds in babies that were taking barley water.

Fat and Proteid Content of Top Milk.

Dr. Charles A. Fife, Philadelphia, had used the Chapin dipper in obtaining the top milk. The results epitomized were shown by charts. The fats in the top quarts, in 17 analyses of 4 ounces, highest, 32.2; lowest, 17.8. In the lower grade milks the variation was much less than that. In the higher grade milks the variation was much greater. The proteids were very uniform throughout, but in the higher grades the proportion of proteids was very much less than was usually believed; considerably below 3 per cent.; about 2.75 per cent. As to variation between pints and quarts—the quarts were, as a rule, more uniform than the pints, but almost always a little higher; about ½ per cent. higher—not enough to make any practical difference in the modifications. As to the composition of the bottom milk there was very little difference between the lower 24 ounces and the lower 8 ounces, so that it was not necessary to depend on the lower 8 ounces to get a so-called fat-free milk. As to proteids there was very little difference.

The Urinary Findings in a Series of Infants Suffering from Intestinal Infection.

Dr. J. H. Mason Knox and Dr. J. C. Meakins, Baltimore, said that they had taken 72 infants for the basis of this study, of which 19 were used as controls, in whom the urinary findings were negative and in whom there was no intestinal infection. Malnutrition, 6; diarrhea, 6; indigestion, 4; 53 cases of definite intestinal infection; of these 33 toxic cases and 20 ileocolitis. In 31 of the 53 no urinary changes had been found; in 32 definite abnormalities had been found. Of these 53, more than one-half were in the middle of the first year. Duration of illness had averaged about ten days to six weeks. There were 34 boys and 19 girls. Cases according to urinary findings were divided into three classes: (1) Those containing only albumin, or albumin and casts; (2) those in which pus was found; (3) those in which in addition to pus there were albumin, casts and bacteria and red blood cells. He concluded that infection of the urine occurred almost as frequently where the cases were toxic as where there was very definite intestinal lesion; that infection had its origin in the intestinal canal and then reached the kidneys secondarily.

Dr. I. A. Abt, Chicago, said that these might not be purely or simply intestinal lesions but indications of perversion of metabolism with the production of toxic substances, much the same as certain constitutional diseases produce acidosis. This would seem especially true in view of the fact that the intestinal lesions were sometimes slight in comparison with the severity of the condition.

ARKANSAS MEDICAL SOCIETY.

Thirty Second Annual Meeting, held in Little Rock, May 12-15, 1908.

Election of Officers.

The following officers were elected: President, Dr. J. T. Clegg, Siloam Springs; vice-presidents, Dr. E. K. Williams, Arkadelphia; Dr. J. L. Hall, Pocahontas; Dr. B. D. Luck, Pine Bluff; secretary, Dr. Morgan Smith, Little Rock; treasurer, Dr. J. M. Scales, Pine Bluff; delegate to American Medical Association, Dr. C. C. Stephenson, Little Rock; alternates, Dr. G. A. Warren, Black Rock, Dr. B. Hatchett, Fort Smith; new councilors: Second district, Dr. H. O. Walker, Newport; Fourth district, Dr. William Breathwit, Pine Bluff; Sixth district, Dr. J. H. Weaver, Hope; Eighth district, Dr. C. P. Meriwether, Little Rock; Tenth district, Dr. F. B. Young, Springdale. Pine Bluff was selected as the place of meeting for 1909.

The question of admission of undergraduates was indefinitely postponed, and recognition of Southwest Medical Association was deferred.

The section of Article IV. of the constitution which permitted members of House of Delegates to hold office in the society was repealed.

Dr. Joseph Price, Philadelphia, and Dr. C. C. Browning, Los Angeles, were guests at the society.

Education of the Public and Progress in Medicine.

Dr. Joseph Price, Philadelphia, made a plea for the wider dissemination of medical knowledge among the laity, especially among women and young children. Our women, he said, should be improved mentally and physically; to have big men we must have big mothers. The number of specialists should be multiplied and they should abound in every-day life. Arkansas has 75 counties; she should have 75 polyclinics and 75 postgraduate schools. She has 75 poor-houses and 75 jails full of good material which should be self-supporting. Untold good is done by teaching others. Recently he met an old pupil who reported 138 appendicectomies with one fatality. He scolded him for losing that one, which the practitioner admitted was most likely due to faulty technic. Dr. Price cautioned his audience not to despise the day of small beginnings, referring earnestly to the great work of McDowell, Sims, and others, who, at the outset, were compelled to use the very crudest of accessories, their clinics being organized in woodsheds, stables, etc., yet these humble beginnings marked the foundation of the greatest progress in the work of ameliorating the sufferings of mankind which the world has ever known. Much remains to be done and there is much that can be achieved by the assiduous hard worker along lines of original research work; poor facilities should not be viewed as insurmountable difficulties. He believes that the crying need of the hour is better general education, and he fears that the generosity of Mr. Carnegie is in great measure misapplied. Good common schools are sorely needed, while literature is plentiful and within the reach of the very poorest.

Progress in Treatment of Disease.

Dr. C. C. Browning, Los Angeles, following out the theme of Dr. Price, referred to the progress made in the treatment of disease, and especially to the work of the Section on State Medicine and Public Hygiene. A few years ago this section was thought scarcely worth attending; now it is considered one of the most important. In California this subject is a live one, as is also true of Pennsylvania, where the last legislature appropriated one million dollars to fight tuberculosis alone; showing the great interest manifested in that state in one particular disease. This dread scourge carries off from one-tenth to one-seventh of the entire population of the civilized world. He urged on those present the extreme importance of educating the laity in public hygiene; its principles should be made clear to the people, and the little children in the public schools should be carefully taught and enlightened, that they may go out as missionaries to every home.

Medical Organization and Some Fallacious Notions Concerning It.

Dr. C. C. Stephenson, the retiring president, in his address paid a glowing tribute to the late Dr. N. S. Davis, the founder of the American Medical Association, and to the work of the Association, and to what its recent efforts have accomplished in the way of securing better medical colleges, higher necessary requirements for the admission of students and the elevation of medical standards generally; medical legislation; medical practice acts; publication of a medical directory; organization of a Council on Pharmacy and Chemistry; organization of a Committee on Medical Organization, and the great work accomplished by Dr. McCormack, its chairman; the inauguration of a postgraduate course for county societies, etc. The future possibilities of organized medicine, he said, are beyond the comprehension of even the most hopeful optimist. He declared that medical organization was never intended as a selfish enterprise, but as the best means for the alleviation of pain and suffering wherever found. Advertising quacks and nostrum vendors he handled without gloves. Commercialism and selfishness he emphatically denounced. He recommended the conversion of the old State Capitol Building into the State Charity Hospital, with suitable pathologic and bacteriologic laboratories, and that it should have a postgraduate course for practitioners and nurses. He asked that definite steps be taken to prohibit the publication of indecent advertisements in the press and on billboards; for compulsory vaccination and for restricting the issuance of marriage licenses to those mentally and physically sound; and that vigorous action be taken in regard to the discouragement of newspaper news items going the rounds of the press exploiting various wonderful results, e. g., those attained by the treatment of hydrophobia by the so-called madstone. He recommended that the expenses of the state secretary be borne by the society while attending the meeting of the Association of Editors of State Journals. He also asked that every honorable means be employed to secure the passage of a law requiring a higher standard of medical education and a law defining "a high school course." Finally he recommended that the State Board of Medical Examiners be made the board of visitors to report annually to the general session as to the efficiency of the medical schools of the state, and that a gold medal annually be given to the two medical schools of Little Rock for meritorious graduates.

Some Problems of Childhood.

Dr. H. P. Routh, Hackett, referred to the many dangers and difficulties of childhood due to the ignorance of mothers, midwives, and meddlesome neighbors; to the unwarrantable substitution of artificial for breast feeding, thereby increasing the infant mortality; to contagion in the public schools, and to nostrums. It is the duty of the physician, he said, to safeguard childhood in every way possible, and the laity should be taught the lurking danger in baby elixirs, baby bowel remedies, cough syrups, etc., so attractively displayed in the druggists' windows and shelves and advertised in the press both secular and religious, as well as in certain medical journals.

The Race Suicide Problem.

Dr. C. P. Meriwether, Little Rock, discussed the so-called race-suicide problem. He believes that the trouble in most cases is due to gonorrhea in the male, that education should begin at an early age in the home, and that sexual purity should be taught to the youth of the country by parents. In this way only may we expect the direful results to be averted.

The Diagnosis of Pelvic Diseases and Treatment of Inflammatory and Suppurative Conditions.

Dr. Joseph Price, Philadelphia, said that a large percentage of these troubles are due to the irregular lives of the husbands before marriage. He urged that parents should watch over their daughters more circumspectly, and safeguard them in every way against these horrors. In the simple bucolic days these troubles were rare; but with the coming of increased facilities for transportation and the advent of railroads, vice made its inroads. When men who have led irregular lives marry, they contaminate their wives: few, if any, of whom bear children; and many come on the operating table. Dr. Price deplored this state of affairs and advocated strongly the single standard of morals and the free circulation of healthy and helpful literature among those of tender age. Americans, he declared. are in the front rank as regards gynecology, and are to be congratulated on their discoveries and improved methods, which are well understood throughout the world.

Prevention of Disease.

The chairman of the Section of State Medicine and Public Hygiene, in his address, declared that prevention of disease is the highest duty of the physician, sanitary science having done more for mankind than any other department of medical achievement. More is being done now than ever before and he predicted magnificent results in the future. He referred to the ravages of pulmonary tuberculosis and pneumonia, deplored the lack of a state sanitarium, and urged that vigorous effort be made to secure such an institution.

State Examining Boards.

Dr. M. Fink, Helena, described the good work accomplished in this and other states by the state examining boards, and described how efforts to obtain a better law were hampered at the last session of the state legislature. The measure was thwarted in large measure by the efforts of the "patent medicine" men.

Public Health and Vital Statistics.

Dr. G. M. D. Cantrell, Little Rock, called attention to the great value of public sanitation in fighting disease. He emphasized the need of more effective sanitary laws, and declared it the duty of the medical profession of the state to become leaders in the effort to secure an efficient board of health and to educate the laity in regard to lending a hand to secure better sanitary conditions. The people must be convinced of the important part sanitation plays in everyday life and they will not be slow to provide the necessary means, laws, and officers to carry on the work. He also alluded to the extensive work of Dr. Irion, secretary of the State Board of Health of Louisiana, in enlightening the laity of that state.

Hygiene in Tuberculosis.

Dr. C. H. Hoffman, Little Rock, emphasized the importance of early recognition and prompt, energetic and courageous treatment. The first duty of the State is to educate her citizens, especially the laboring classes of both races in the general principles of sanitation. The milk supply should be carefully safeguarded and the health of those employed around dairies investigated, and persons found to be infected should be assigned to other duties. He warmly supported his colleagues in their effort to secure a state hospital.

Skin Lesions.

Dr. Nettie Klein, Texarkana, regards skin lesions as danger signals of great pathologic value whose importance is too often ignored. Boils, acne, dermal neuropathies, eczema and tuberculosis of the skin, are not local troubles, but the development of some underlying pathologic condition, which should be thoroughly investigated in diagnosis.

Case of Abdominal Pregnancy.

Dr. A. G. Dickson, Paragould, reported a case of abdominal pregnancy in a patient aged 26, health good, first pregnancy. In the tenth month of gestation she developed chills and fever. The amniotic sac was found partly adherent to parietal peritoneum on left side, and to the intestines. The fetus weighed eight pounds, and lay in the right oblique diameter. Down in the left iliac was a completely developed placenta attached to the parietal peritoneum and sigmoid; from it was reflected the decidua that formed the gestation sac. The uterus, ovaries and tubes were normal throughout; there was no attachment between these organs and the placenta. This, good authorities deem impossible. Fetus had been dead two or three months, and was in a good state of preservation; placental adhesions were easily broken and the placenta was removed, with but slight hemorrhage; no infection followed; recovery was rapid. This disproves the idea that in order to live and thrive after escape into the abdominal cavity, the fecundated ovum must retain its placental attachment to the tube.

The Management of Abnormal Labor.

Dr. C. K. Caruthers advocated chloroform for rigid os, and quinin and strychnin for uterine inertia. There is minimum danger to mother and child by early use of forceps when indicated. The perineum is protected by retracting the mucous membrane at the anterior fourchette over the occiput, at same time pushing up on the fetal head, thus increasing the diameter of outlet.

Surgical Treatment of Retroflexions.

Dr. William H. Miller, Little Rock, has found the internal Alexander technic most useful in the majority of cases, and less likely to produce unpleasant sequelæ; he has employed it in over fifty cases without a single failure. He has had unsatisfactory results with the Wylie operation, especially in cases of subsequent pregnancy.

Puerperal Eclampsia.

Dr. C. M. Lutterloh has experienced but few cases. One in 330 labor cases is said to be the ordinary proportion. He believes albuminuria the most probable cause. He recommended that the patient be encouraged by suggestion, and that no allusion whatever be permitted by any one to the previous eclamptic condition. This will usually abort the unfortunate sequelæ of insanity, which frequently occur, and mar a good recovery.

Puerperal Infections.

Dr. G. A. Warren, Black Rock, condemned too frequent or unnecessary vaginal palpations, and the use of douches. If douches are used they should be as hot as safety will permit; if the curette, it should be blunt, and sound tissues should be carefully guarded.

Diseased Conditions of Female Reproductive Organs.

Dr. C. S. Pettis, Eldorado, condemned hasty surgery and failure to observe strict asepsis; he paid a tribute to womanhood and attributed a large share of sterility to gonorrhea in the male.

Chairman's Address—Section on Surgery.

Dr. A. G. Dickson, Paragould, complimented the surgeons of Arkansas on their steady progress. He referred to the Cargile membrane and the "Runyan stitch" adopted and commended by the Mayos. Both were Arkansas products. He closed with a word of encouragement to still further efforts and discoveries.

Intestinal Obstruction.

Dr. W. A. Snodgrass, Little Rock, reported five cases of intestinal obstruction of which two were fatal; three patients recovered. He strongly recommended early surgical interference and condemned purgatives which tend to increase the tension in already weakened and inflamed bowel.

Drainage.

Dr. C. R. Shinault, Little Rock, referred to drainage as Nature's method, and strongly urged its use as a general rule: especially, when in doubt, we should take no chances, but drain.

Bone Tuberculosis.

Dr. J. P. Runyan, Little Rock, said that in acute miliary tuberculosis the red marrow of the spongy, as well as the diaphyses of the infantile bones, is involved. The tela ossea proper does not undergo any change. Caries is not a special disease, although frequently the result of tuberculous disease of the bone. It may originate from hematogenous metastasis, or may arise from extension to the bones by continuity from adjoining tuberculous tissue. If due to direct extension from a neighboring focus, it involves the periosteum first. It spreads more rapidly in spongy than in denser tissues. In tuberculosis we find no new formation of bone in the diseased periosteum. In the other acute inflammations the bone forming function of the periosteum usually remains intact.

Appendicostomy in Treatment of Amebic Dysentery.

Dr. Oscar Gray, Little Rock, reported the case of a young woman, aged 23; pulse 110 to 120; temperature 100. He made an abdominal incision: brought the appendix out and stitched it to the surface of the skin; inserted a catheter in appendix well into the bowel. First irrigation was one quart of solution of quinin sulphate, 1:500 rather cold. Subsequent irrigation was carried on with plain ice water. He closed the fistula at the end of the eighth week, but believed it should have remained open six months. Diet was buttermilk, orange juice, a little broth and albumin water.

Rupture of Heart.

Dr. M. C. Hughey, Knobel, reported a case of rupture of the heart, probably the result of a fisticuff encounter. Patient appeared well after the fight, but experienced a hard rigor the night following. On the third day he had severe headache; that night convulsions set in and death occurred the next day. Postmortem revealed pia mater swollen, inflamed, congested; no other cranial lesion. The pericardium was ruptured and there was a rupture in the right ventricle large enough to admit the little finger of an adult. Query: When did the rupture occur?

Medical Advertising.

Dr. Henry Thibault, Scotts, criticized severely irregular methods of securing practice by exploiting the laity, circulars, newspaper advertising, "interviews," or otherwise.

Cardiac Tonics.

Dr. Thomas Hunt Stuckey, Louisville, Ky., contributed a paper on the use of cardiac tonics, with special reference to digitalis. In his opinion digitalis stands first; strophanthus, second; spartein, third; caffein, fourth; strychnin, fifth, and adrenalin, sixth.

Intussusception.

Dr. St. Cloud Cooper, Fort Smith, said that boys are more frequently affected than girls. He recommended a warm enema of sweet oil; inversion of patient, and gentle massage of bowel; after two hours' failure to get relief, laparotomy.

Obstipation.

Dr. M. C. Howton, Osceola, believes that this trouble is, in a large measure, due to irregular stools and pracrastination. It is unknown to American Indians, and is rare among the French.

Hydrophobia.

Dr. J. S. Rinehart, Camden, reported fatal cases and deplored the absence of a Pasteur institute in Arkansas. Early and thorough disinfection of wound is of paramount importance.

Sciatica.

Dr. G. E. Cannon, Magnolia, considers sciatica usually traceable to pressure, heavy lifting, sudden straining, hard seat in office, continued jolting over rough road, etc. Treatment: Rest and electricity.

Examination of Eyes and Ears of School Children.

Dr. R. H. T. Mann, Texarkana, urged that every pupil should be examined on entrance: this would aid the teacher in selecting seats; those children with defective vision should be placed near the blackboard: those with poor hearing near the teacher. Inflamed eyes and headaches should be watched carefully for if unchecked they will produce baneful effects.

Pancreatitis.

Dr. F. B. Young, Springdale, said that pancreatitis is usually concomitant with gall-bladder lesions. It may arise from cholecystitis or complicate mumps; convalescence is tedious. Treatment: calomel, salines, sodium phosphate, and hot water enemata, with tonics in convalescence. Uranalysis did not show sugar in any of twelve cases of pancreatitis combined with mumps.

The following papers also were read: "A State Sanitarium for Tuberculosis," by Dr. C. E. Witt, Little Rock; "A Case of Calcified Fibroma of Ovaries in a Negress," by A. Watkins, Little Rock; "A Case of Abdominal Ectopic Pregnancy," by Dr. R. C. Dorr, Batesville; "Case of Hematocolpos and Hematometra," by Dr. L. E. Willis, Newport; "Perineal Lacerations," by Dr. W. A. Snodgrass, Little Rock; "Three Cases of Eclampsia," by Dr. H. C. Dunavant, Osceola; "An Obstetrical Case," by Dr. A. L. Whitcomb, Rogers; "A Hair Pin in the Uterus: A Case of Hodgkin's Disease," by Dr. C. J. Hughes, Walnut Ridge; "Several Cases of Sarcoma of Kidney," by

Dr. Carl E. Bentley, Little Rock: "Two Hundred Cases of Measles," by Dr. A. L. Carmichael, Little Rock: "Rheumatism," by Dr. M. G. Thompson, Hot Springs; "Sporadic Cases of Diphtheria," by Dr. C. C. Price, Douglas; "Progressive Pneumonia," by Dr. J. M. Stephens, Clover Bend; "Prophylaxis and Treatment of Pneumonia," by Dr. J. W. Melton, Alum; "Treatment of Pneumonia," by Dr. H. H. Niehuss, Wesson; "Malarial Hematuria," by Dr. J. G. Waldrop, Augusta; "Pulmonary Tuberculosis," by Dr. D. C. Walt, Little Rock; "The Unreliability of Heart Murmurs," by Dr. N. S. Word, Camden; "Reminiscenses of the Civil War," by Dr. L. J. Wilson, Alma.

AMERICAN ASSOCIATION FOR CANCER RESEARCH.

Meeting held in Buffalo, April 15, 1908, at the New York State Cancer Laboratory.

(Continued from page 159.)

A Study of the Proteids of Tumors.

Dr. S. P. Beebe said that the methods of investigation which have been employed thus far in the study of tumor proteids have been faulty in many respects. The whole tumors have been compared to some normal organ and attempts have been made to draw conclusions regarding the relation which tumor proteids bear to those of normal organs. Pure proteids from the two sources have not been compared. Two methods are available for the latter object; viz., the pure proteid may be hydrolyzed by a mineral acid and the hydrolytic products separated quantitatively by the Fish esterification method, or the biological method, as exemplified in the precipitin test, may be tried. The first method is practically ruled out because of the large amount of pure proteid required to get satisfactory results. The second method has been tried in a number of instances during the last two years and the results show that normal organs may be differentiated, and also that tumors may be differentiated from one another as well as from normal organs. The work is still in progress but the indications are that tumors contain characteristic proteids

Further Observations on Immunity in Lymphosarcoma in Dogs.

Dr Beebe said that the transfusion of blood from an immune animal to an animal with growing tumors will cause the regression of the latter, with subsequent immunity to further implantations of the tumor. The question at once arises: To what extent is the subsequent immunity caused by the transfusion of immune blood, and to what extent may it be due to a change taking place during the regression of the tumors? To get further light on this point, a series of five animals was planted with the tumor and the latter was allowed to develop only to a sufficient extent to demonstrate that the animal was susceptible. At this point they were completely removed and the dog at the same time was given a large transfusion of blood from an immune animal. From a week to ten days later the susceptible animals were again planted with the tumor, with the result that they all gave positive growths. It would seem, therefore, that the regression of the tumor as a result of the action of the immune blood is an essential factor in the development of the subsequent immunity in susceptible animals

DISCUSSION.

Dr H. R. Gaylord said that these facts conform with the views held by Clowes and himself, that recovery from a tumor is essential to the establishment of immunity They also tend to show, in his opinion, that transfusion with immune blood in animals acts by inaugurating a process similar to spontaneous regression in tumors This is the essential difference between the interpretation placed on this phenomenon by Ehrlich and the point of view held by Clowes and himself.

Recurrent Liposarcoma of the Kidney.

Dr. Guthrie McConnell reported the case of a man, 44 years old, white, who was admitted to St Luke's Hospital, St. Louis, Mo., in Dr. H. G. Mudd's service

About October, 1899, the patient noticed a lump about the size of a hen's egg in the right hypochondrium. It increased slowly in size during the year, becoming as large as a baseball by January, 1900. Eighteen months later, June, 1901, he came to the hospital for operation. At this time there was found a large freely movable cystic tumor filling the abdominal cavity. At the operation the colon was found lying on the left lower portion of the tumor in such a way as to indicate a retroperitoneal origin. The growth was found to surround and closely to incorporate the right kidney. It was yellow in color and resembled a lipoma; was cystic in places and weighed 65 pounds. Microscopically it was a fibro-lipoma with some mucoid degeneration.

The patient was not seen again till January, 1908, at which time a large growth was removed from the right hypochondrium. It weighed 27 pounds, was yellow and gray in color, and was lobulated. Its consistency varied in different places, but was nowhere cystic

Portions of tissue were taken from three different areas. Section A consists of fat cells surrounded by quite wide bands of a very cellular connective tissue. At the periphery this tissue is firmly compressed and forms a distinct capsule. A small amount of elastic tissue is present in the capsule and around the capillaries.

Section C closely resembles the above, except that it is somewhat more vascular.

Section B consists almost entirely of solid tissue with very small collections of fat here and there. The groundwork of the specimen is composed of a slightly granular translucent material, evidently connective tissue, either edematous or myxomatous in character. The nuclei vary extremely, they differ so widely that it does not seem that they can all be of the same origin. They occasionally occur in groups, giving an impression of being giant cells, but in only a few instances are true forms of them to be seen.

In none of the sections are involuntary muscle fibers or mitotic figures seen.

In the specimens taken from the three different portions of the growth there is found in all instances a peculiar structure It is composed of a ring of cells consisting of a large amount of protoplasm in which is a large, round, or slightly oval well staining nucleus. The center of the ring is clear, as a rule, and the lining of the lumen consists of the protoplasm of the above cells.

In Section B this structure appears to have been cut obliquely, and the character of the cells is more distinct. The cell is quite large, with a well marked cell wall, within which is a slightly granular protoplasm containing a bluntly oval, quite deep staining nucleus. The lumen is triangular in shape and contains on one side a slightly granular substance, but no blood cels. The appearance presented is that of a tubule lined probably by endothelium, considering the growth to be mesothelial in origin.

The question of origin brings up the subject of hypernephromata. Many of the so called lipomata of the kidney have proved on microscopic examination to be adrenal rests. There are however many hypernephromata that contain large amounts of fat.

Keenan and Archbold report a case of fatty tumor and come to the conclusion that it is a lipoma resulting from the degeneration and metaplasia of the cells of an adrenal rest. As this tissue is a mesoblastic derivative such a process would seem possible.

In the case here reported the growth recurred and had certain of the peculiarities found in sarcomata.

By starting with the hypothesis that fatty changes are not uncommon in the normal adrenal we establish our premise. The presence of aberrant adrenal tissue, particularly in the neighborhood of the kidney, is a widely accepted fact The first condition, then, to be expected is a hypernephroma, accompanied by fatty changes of varying degree. Then, as in the case of Keenan and Archbold, the fatty tissue greatly predominates, but here and there are found cellular areas believed to be derived from adrenal tissue In the case now reported there is only a very slight remnant of early structures, the fatty tissue being overwhelmingly predominant.

Granting the possibility of the degeneration and metaplasia of the adrenal elements into fatty tissue, it would seem allowable to hold that this tumor was in reality a hypernephroma that had taken on a fatty change with a limited malignant tendency.

DR. F. B. MALLORY gave a demonstration of lantern slides used in teaching the histopathology of tumors at Harvard Medical School.

So-Called Rhythms of Growth-Energy.

DR. GARY N. CALKINS said that in 1906 Bashford Murray and Bowen published a paper on the experimental analysis of growth in cancer, in which so called rhythms of growth energy were discussed. To represent these rhythms graphically the authors used for ordinates the percentages of takes upon transplantation and as abscissas the length of time in days taken by the tumors to develop to the point when ready for transplantation. In curves based upon such data there were evidences of more or less definite alternations of greater and less virulence. Similar results were described by Hertwig and Poll in a recent publication on the biology of mouse tumors

Rhythms in activity of growth are characteristic of all rapidly growing tissues or of free living cells, and might well be looked for in rapidly multiplying cells, such as mouse cancer presents. But the rhythms should occur in the individual tumors and not in successive transplantations, for the factor of infectiveness of the cancer cells as confusing the real growth energy must be taken into account. The so called rhythms of growth energy, therefore, should be further analyzed and the factors of infectivity and growth energy examined independently. This has been done for two of the tumors of the Buffalo laboratory, one the so called Brooklyn tumor, the other the Springfield tumor. For comparison, two curves were made for each tumor, one representing the percentage of takes in successive transplantations, the other the rate of growth as measured by the length of time in days from the inoculation to death from cancer of the inoculated mice, in successive transplantations. Here is the real measure of growth energy unaffected by the factor of infectivity The curves show no relation between the two factors after the tumor is well established, and show, further, that the rhythms described by Bashford Murray and Bowen are rhythms in infectivity and not in growth energy of the cancer cells

DISCUSSION.

DR. LEO LOEB said that the differences between the curves representing the energy of growth and the inoculability of tumors were very interesting. He had had occasion in several publications to point out such differences and to draw attention to the fact that these differences are not favorable to Borrell's hypothesis in regard to cell growth It was especially important that Dr. Calkins had been able to demonstrate that Bashford's rhythmical curves apply merely to the inoculability of tumors and not to the rate of growth

In regard to Dr. Calkins' remarks about the possible duration of life of somatic cells, he would state that he had started experiments on this point about two years ago The experiments had had to be temporarily discontinued but he hoped soon to be able to resume these investigations.

Laboratory Experiments on the Causation of Cancer.

DR. H. R. GAYLORD reported· 1. Transplantation results in 23 spontaneous tumors, all cancers of the breast in mice obtained from the same breeding establishment. Sixteen did not produce tumors in the first generation; 4 produced tumors in the first generation but did not transplant; 1 transplanted to the third generation; 2 of the 23 are still running

2 Transplantation of established tumors into mice with spontaneous tumors. Bashford and Borrel have reported experiments of this sort, in which animals already suffering with spontaneous tumors were inoculated with spontaneuos tumors or established transplanted tumors. Six mice with spontaneous tumors inoculated with established transplantable tumors gave six positive results. Four mice with spontaneous tumors inoculated with spontaneous tumors from other mice gave in each case a negative result. These results tend to confirm the conclusion of Bashford that mice suffering from spontaneous tumors are not in a condition of unusual susceptibility.

3. Experiments to control the observations of Schöne on the production of immunity by the injection of embryonic tissue into mice. Attempts were made to immunize 73 mice by repeated injections of mouse embryos and liver tissue, following carefully the method of Schöne. As control for these experiments 35 direct inoculations were made. Animals which received injections of embryonic tissue gave 51 per cent. of successful inoculations, controls 20.2 per cent.

4. Experiments with spindle celled sarcoma of the rat (primary sarcoma of the thyroid), designed to repeat the observations of Flexner and Jobling on the sensitization of animals before inoculation with tumors. Tumor used was in the fifteenth generation of transplantation, and showed an average infectivity of 15 to 30 per cent. The experiments were divided under three heads: Tumor material heated at 50 C. for one hour; at 56 C. for one hour, and 59 C. for one hour. Results of injecting rats with tumor material heated to 50 C. were as follows:

Five sensitized rats inoculated 3 days after sensitizing gave 4 tumors, 5 control rats 3 tumors

Five sensitized rats inoculated 10 days after sensitizing gave 2 tumors, 5 control rats 3 tumors

Five sensitized rats inoculated 16 days after sensitizing gave 1 tumors, 5 control rats 4 tumors

Five sensitized rats inoculated 32 days after sensitizing gave 3 tumors. 5 control rats 3 tumors

Five sensitized rats inoculated 38 days after sensitizing gave 1 tumor, 5 control rats 4 tumors

Results of injecting rats with tumor material heated to 56 C were as follows:

Five sensitized rats inoculated 6 days after sensitizing gave 1 tumor, 5 control rats 1 tumor.

Five sensitized rats inoculated 13 days after sensitizing gave 2 tumors, 5 control rats 3 tumors

Five sensitized rats inoculated 19 days after sensitizing all died, 5 control rats gave 2 tumors

Tumor material heated to 59 C gave following results:

Ten sensitized rats inoculated 11 days after sensitizing gave 3 tumors, 10 controls no tumors.

Five sensitized rats inoculated 21 days after sensitizing gave 2 tumors, 5 controls all died before tumor development possible

Ten sensitized rats inoculated 38 days after sensitizing gave 1 tumors, 5 controls no tumors

Five sensitized rats inoculated 52 days after sensitizing gave 2 tumors, 5 controls no tumors

Five sensitized rats inoculated 63 days after sensitizing gave 1 small tumor, 5 controls 1 small tumor

Seven sensitized rats inoculated 84 days after sensitizing gave no tumors, 5 controls 2 tumors

From these results the reporter finds that with the Buffalo spindle cell sarcoma of the rat it has not been possible to demonstrate any sensitizing effect or any definite influence, as the result of injecting heated tumor material before inoculation.

5. Further report on a breeding establishment in Massachusetts where cancer of the breast in mice is endemic. This is the same establishment which was reported in Toronto, in 1906, and in November last at the meeting of the Association for Cancer Research. From June 1, 1906, to Nov. 15, 1907, this breeder had raised, according to her own approximation, 7,500 mice. During the same period she sold to this laboratory 53 tumor mice, to other investigators 16; and 6 had died, making a total of 75 tumor mice. Since Nov. 15, 1907, the laboratory has received from her 24 tumor mice, and based on the same approximation she has raised since that time 1,700 mice. On the basis of several thousand animals examined, Bashford has estimated the incidence of cancer in mice at 1 in 3,500. The occurrence of cancer in this establishment is more than 1 in 100, at least 35 times more frequent than the average, according to Bashford.

6. Experiments directed to the control of Moore and Walker's experiments on the resistance of mouse tumors to freezing with liquid air at a temperature of —195, for a period of from 20 minutes to half an hour. To control this observation we used an active transplantable mouse tumor, dividing it into equal portions, freezing one portion 40, and the other 80, minutes. Tumors developed after each of these periods of freezing as follows: Nine mice inoculated with material frozen 40 minutes gave two tumors, 14 mice inoculated with material frozen 80 minutes gave two tumors. Five controls inoculated directly gave five tumors.

From each series six mice were killed on, respectively, the third, fifth, seventh, tenth, thirteenth and eighteenth days. All of these failed to show any evidence of proliferation in the in jected cancer epithelium with the exception of one, a mouse inoculated with material frozen 40 minutes and removed on the eighteenth day. Four controls, removed, respectively, on the fifth, seventh, thirteenth and eighteenth days, showed rapidly proliferating and infiltrating tumors. Of the tumors which were allowed to develop to maturity, one, material frozen 40 minutes, made its first appearance 17 days after inoculation. Tumor grew for this period of time, retrograded, ultimately began to grow again, and at date, three months after inoculation, it is growing slowly and is about the size of a hazlenut. In the series where the material was frozen 80 minutes three tumors developed. They appeared, respectively, in 21, 21 and 39 days after inoculation. Two retrograded, and one, that appearing latest, grew with great rapidity, the animal dying from the tumor in 54 days after inoculation. The two controls which were allowed to develop, developed rapidly growing tumors of great size, which killed in 23 days after inoculation. It will thus be seen that freezing with liquid air for so long a period as 80 minutes does *not prevent* the development of tumors. The number of successful inoculations is, however, markedly reduced, the tumors appear later, tend to retrograde, and show in every particular lessened vitality. As control, were used young mouse embryos removed aseptically, chopped fine, frozen for 20, 40 and 80 minutes with liquid air, injected subcutaneously through a coarse needle with syringe, with the result that evidence of growth could be found in the controls but in none of the implantations made with frozen material could undoubted evidence of growth be determined. For further control was used the spleen from animals infected with *Trypanosoma gambiense*. This organism had reached a state of virulence by which it killed inoculated animals in three days. Material frozen for 20 minutes with liquid air produced the disease in inoculated animals, killing them in nine days. The organisms were found in the spleen, other organs and in the circulation. Material containing the organisms frozen for 40 minutes and for 80 minutes gave negative results. The tumors which developed from material frozen with liquid air for the periods mentioned, present the histological characteristics of the transplanted tumor from which the material was taken. The reporter holds that these experiments demonstrate the great resisting power of cancer cells to low temperatures and can not agree with Moore and Walker that these experiments demonstrate the presence of a virus, although he believes in the existence of such a virus.

Observation on the Inheritance of the Susceptibility to an Inoculable Tumor.

DR. E. E. TYZZER reported from the laboratory of the Caroline Brewer Croft Fund Cancer Commission of Harvard University that an adenocarcinoma which occurred spontaneously in a Japanese waltzing mouse was successfully inoculated into other mice of the same variety. This tumor has been propagated for nearly a year and a half by transplantation from mouse to mouse. It is characterized by its slow rate of growth and the ease with which it is transplanted in waltzing mice. It grows in practically 100 per cent. of the waltzing mice inoculated, but has not grown in a single instance after inoculation into common tame mice.

Since waltzing mice may be bred with common mice, it seemed desirable to determine how the *susceptibility* to this tumor is inherited. The first experiment has afforded results of such a nature as to make it important to investigate further along this line.

Hybrids were obtained by mating Japanese females with common males. These hybrids resemble common mice, and do not waltz. For the first experiment the transplantable tumor in question was inoculated into ten Japanese mice, ten hybrids of the sort just described, and ten common mice. In the ten Japanese mice the tumor grew slowly in the usual manner, in the ten hybrids it not only grew in all, but its rate of growth was much more rapid, while in the ten common mice it failed to grow and became wholly absorbed. Thus the hybrids obtained by mating susceptible Japanese females with nonsusceptible common males are fully as susceptible as the pure Japanese mice. The remarkable feature of these results is that the growth of the tumor in the hybrids outstripped its growth in the Japanese mice in every case. There is a possibility, however, that this difference is to be explained on the basis of a difference in the amount of nutrition afforded the tumor by the two sorts of mice.

The next point to be determined is whether hybrids derived from Japanese males and common females are susceptible. The subject may be also attacked from another side, by employing the inoculable tumors of the common mouse in a similar series of experiments. Several such series of inoculations have already been made, so that it is now only a matter of time before it will be determined whether the susceptibility to a given inoculable tumor is inherited according to Mendelian principles or in some other manner.

Relation of Simple and Mixed Tumors of the Testicle.

DR. JAMES EWING said that the common malignant tumors of the testicle present in very clear light some of the important principles of the theory of cell autonomy. There are several rather distinct histological varieties of these tumors.

1. A rather slowly growing circumscribed solid tumor of teratomatous character, exhibiting derivatives of one or more embryonal layers, such as connective tissue, muscle tissue, cartilage, stratified squamous epithelium, hair, enamel organs, cystic spaces lined by cuboidal or ciliated epithelium, and occasionally nervous elements.

2. Malignant tumors composed of large, round or polyhedral cells, diffusely arranged and variously designated as carcinoma, alveolar sarcoma, or endothelioma.

3. Malignant tumors composed of complex anastomosing systems of large polyhedral cells inclosing blood sinuses or small cavities or alveoli, with cellular stroma resembling sarcoma. The formation of syncytial masses with peculiar vacuolation occurs in some of these tumors and they produce polypoid hydatidiform metastases in blood vessels. These facts led to the suggestion, first by Schlagenhaufer, that this class of growths is the *analogue of chorioma in the female.*

Numerous plans for classification of these tumors have been suggested, the latest being that of Debernardi (Ziegler's Beiträge, 1908, xliii, 89), who believes that the complex tumors form two distinct groups: (a) True teratomata, containing tissues and organs which require involvement of all three germ layers in their origin; and (b) less complex teratomata, or mesodermal mixed tumors, whose structure seems to require the involvement of mesoderm only. Yet Wilms was inclined to suppose that all three germ layers were involved in both *these groups.*

Choriomatous characters have been observed in portions of the complex tumors, so that their teratomatous nature is evident.

Coming to the simpler carcinomata, sarcomata, and endotheliomata, their relation to the teratoma has not been determined, and considering their relatively simple structure, it would be natural to suppose that they originate from simple groups of cells, or even from the epithelium of the tubules. There is, however, an impression based on the general history and embryonal character of the cells of these simple tumors, that they are in some way connected with the teratomata, but this impression has been in need of the support of definite observations. Ribbert refers, however, to cases of testicular tumors in which teratomatous and carcinomatous structures were combined, and he expresses the opinion that the simple malignant carcinoma or sarcoma of the testicle is usually a one-sided development of a teratoma. It is in support of this view that the following case is reported:

In the specimen, for which the author is indebted to Dr. Samuel Alexander, appearances were found which indicate that the usual forms of carcinoma of the testicle, as well as the so-called chorioma, are merely rapidly growing tumors of highly complex origin, in which one or another element gains ascendancy and suppresses the development of other elements which, under other circumstances, may go on to produce the complex structures of the true teratoma. In this case the tumor was secured very early, the growth, consisting of a rounded, circumscribed mass, 1 cm. in diameter, with a single outlying nodule ½ cm. in diameter. These lay in the body of the testicle. In the larger mass three distinct structures ap peared. (1) A diffuse growth of large cells of the type seen in the so called pure carcinoma or endothelioma of the testis; (2) characteristic chorioma of Schlagenhaufer; (3) cystic cavities lined by columnar epithelium, such as are seen in the complex teratoma. The outlying nodule was composed exclusively of the carcinomatous structure. There was every indication that if this small complex tumor had been allowed to grow it would have produced a tumor composed of an increasing proportion of the carcinomatous element, and that the other elements, especially the epithelial lined cysts, would have been suppressed. At such a stage the tumor would have to be classed as a simple carcinoma or alveolar sarcoma; or, if the main growth were confined to the large epithelial masses which sometimes take on syncytial characters, the result would be a large cell alveolar carcinoma, which is not an uncommon type of tumor in the testis.

If this conclusion is correct, as the author believes it to be, then one must suppose that this entire group of testicular tumors, from complex teratoma to diffuse large cell carcinoma or sarcoma, has essentially one origin, viz., a misplaced cell group or tissue mass resulting from one definite and frequently recurring accident in the course of development of the testicle. This hypothesis places no limitations whatever on the variations in the period at which the embryological accident occurs, or in the composition of the misplaced tissue, or in its capacity for subsequent growth, but merely emphasizes the common genesis of a large group of tumors of very diverse histological structure. It may also slightly strengthen the application of Cohnheim's theory in a single field.

There are other tumors of the testicle besides the above series, but they are much less common. One of these arises from the interstitial cells, but this growth has nothing in common with the teratoid group. It is possible that tumors may arise from the adult epithelium of the tubules, but the author has never seen, except in the dog, any which suggested this origin.

In the case here reported the interstitial cells showed a remarkable degree of hyperplasia, appearing between many tubules as sheets of tissue, 10 to 30 cells in breadth. Many of these cells were of unusual size and contained an excessive admixture of granules, staining poorly with eosin, indicating a functional hyperplasia. These appearances, together with a well developed structure resembling chorioma, might suggest that here was a parallel between chorioma of the uterus with hyperplasia of the lutein cells and chorioma of the testicle with hyperplasia of the interstitial cells. In a comparison of this case with other teratoid tumors of the testicle and with normal testicles the author was unable to obtain any definite support in favor of this hypothesis for he found that the development of interstitial cells varies greatly in different animals, and in different portions of the same testicle in man and dog.

It is only possible to state, therefore, that this particular teratoma of the testicle with pronounced choriomatous characters was associated with marked hyperplasia of the interstitial cells. In one other case of large cell alveolar carcinoma of the testis with many vacuolated syncytial masses he has found the same hyperplasia of the interstitial cells.

Medicolegal

Landlord not Liable for Requiring Person with Erysipelas Staying with Janitor to Leave.

The Supreme Court of Michigan says, in the case of Tucker vs. Burt, that while the plaintiff was caring for her young son, who was taken ill in rooms occupied by her son-in-law as janitor of a building, she was taken ill with erysipelas. It was not regarded by the physician as a very serious case. But he told the tenants in the building that the disease was infectious, and warned them to be careful. Finally, the defendant, the owner of the building, having learned, on a Sunday, of the plaintiff's illness and the infectious character of it, notified the janitor that he must take the plaintiff out of the flat. The janitor said he would try and see what he could do about having her removed before Monday afternoon. On the following forenoon the defendant called the janitor by telephone, and informed him that he must get the plaintiff out by noon, or he would bring an officer and put them all out. The janitor communicated this message to the plaintiff. The plaintiff then left the place, and afterwards brought this action to recover alleged damages. She introduced evidence tending to show that she was worse after leaving the defendant's premises. When she rested her case the trial judge directed a verdict for the defendant, on the ground (1) that the defendant had violated no duty which he owed to the plaintiff; and (2) that there was no evidence that her physical condition after she left was traceable to the alleged wrongdoing on the part of the defendant.

In affirming the judgment of the lower court, the Supreme Court says that the question here involved was one of legal, not of moral obligation. The law imposes no duty on the individual citizen to care for the sick or the unfortunate who are poor. The public in this country assume that obligation, and each citizen has performed all that the law requires of him when he has paid his share of the expense imposed on him by taxation for that purpose.

The Priest and Levite violated no rule of law when they passed by on the other side of the wounded man. The Good Samaritan was not acting in obedience to a legal duty when he took compassion on him, took care of him, and removed him to the inn.

What legal duty, if any, did the defendant owe the plaintiff? Unless the law imposed the duty on the defendant to shelter her and her son in his house, it was clear that he could not be held liable. The janitor was the defendant's employé, not his tenant. He possessed none of the rights of a tenant. He had no right to bring into his employer's house to live with him any one, whether well or ill, without his employer's assent. The defendant had not invited the plaintiff to his house, neither had he authorized his employé to do so. The disease was infectious and dangerous to the tenants in the house, especially, perhaps, to one woman, who shortly before had given birth to a child. The physician had notified the tenants of the danger. The defendant was under no obligation to keep the plaintiff in his house if she could be removed, without danger of serious injury. He might lawfully request those who were responsible for her being there to cause her removal. He might not, neither did he, turn her into the street. He first requested his employé to cause her removal. When that employé failed he insisted and threatened to take prompt legal steps with an officer to accomplish it.

The plaintiff was not confined to her bed. There was testimony to show that the defendant knew that the plaintiff had a house of her own, but none to show that he knew where it was located. There was no evidence to show that she might not with comparative safety have been taken to her home in a cab or hack without danger. But, even if there was some danger incident to her going, there was also danger to the other occupants of the house incident on her remaining, and it was as much the legal duty of the defendant to look out for them as to look out for her.

Whatever aggravation of illness was caused in consequence of the plaintiff's removal, the physicians agreed that it was due more to excitement than to any other cause. There was no evidence from which the defendant might have inferred that such a result would follow, or that he had any intimation that the removal would excite the plaintiff, or that the excitement would aggravate her illness. The defendant was guilty of no legal wrong.

Injuries from Fright and Indirect Physical Impact.

The Court of Appeals of Maryland says, in Philadelphia, Baltimore & Washington Railroad Co. vs. Mitchell, a personal injury case brought by the latter party, that the weight of authority, both of text books and decided cases, supports the view that there can be no recovery of damages for mere fright or mental suffering, caused by negligence, unconnected with physical impact or injury. This conclusion has generally been reached in reliance on the remoteness of the damage as well as the inexpediency of opening the door to claims difficult of precise proof or disproof, and from their nature easy of simulation and liable to exaggeration. Many of the cases hold not only that there can be no recovery of damages for mere fright without impact or injury, but also that there can be none for actual physical injury resulting from such fright because such results are merely evidence of the degree of the fright or the extent of the damages resulting from that cause. From the last-mentioned proposition there has been a positive dissent in some recent cases which hold that there can be a recovery for physical injuries which are shown to be the natural and proximate result of mere fright caused by negligence, provided there be an unbroken connection between the negligent act and the injury without the agency of any intervening and independent cause. And whether the evidence establishes such an unbroken connection has been held to be generally a question for the jury.

But the court holds that there was in this case sufficient evidence to go to the jury of such physical impact and injury to the plaintiff contemporaneous with her fright as to take the case out of the classes referred to. She testified that while walking under an overhead bridge in the course of construction a hammer fell and struck her umbrella and she threw herself away from it and felt something tear in her side. By the time she got home she was suffering much pain and was compelled to lie down at once. She continued to suffer greatly, and on the next day, spit five or six large mouthfuls of blood. In a few days she was compelled to go to bed and remain there for about three weeks, and was ever afterwards in poor health and subject to frequently recurring spells of violent internal throbbing, which incapacitated her from performing her ordinary domestic duties. She also testified to having been in an early stage of pregnancy when injured, and to having suffered a miscarriage five days thereafter. There was also the testimony of four physicians who had attended or examined her professionally after her injury, tending to show that she had an aneurism of the abdominal aorta of a serious and incurable character, which was first recognized about a week after her injury and might have been caused by it.

The court holds that the striking of the umbrella in her hand by the falling hammer constituted a physical impact. While the physical impact or injury requisite for the purpose under discussion must be actual, it need not be such as to occasion an external wound or bruise. Indeed, it is not necessary that the person of the individual injured in such cases be struck. It is sufficient if the blow fall on the clothing worn by him, or even on the vehicle in which he is riding.

Current Medical Literature

AMERICAN.

Boston Medical and Surgical Journal.

July 2.

1 Theodore Tronchin, 1709-1781. F. C. Shattuck, Boston.
2 *Unusually Extensive Milk-Borne Outbreak of Typhoid. C. Harrington, Boston.
3 A Glomerular Lesion of Experimental Nephritis. H. A. Christian, Boston.
4 *Menace of the Swimming Tank. C. M. Cobb, Boston.
5 Alphamonobrom-Isolvalerylurea. A New Nerve Sedative and Somnifacient. (Concluded.) W. H. Porter, New York.

2. **Milk-Borne Typhoid.**—Harrington gives an account of an epidemic of typhoid that broke out March 31, 1908, in Jamaica Plain, which had been free from the disease for many months. In about six weeks no fewer than 410 cases were reported. The milk supply was early suspected and investigated. Of the 410 cases, in 348 primary and in 23 secondary cases the individuals were supplied by dealers F. and Q. In common with eight other milkmen, F. and Q. obtained their supply from the car of a contractor who derived his particular carload from eight towns, in none of which had typhoid occurred during the preceding three months. Investigation of this dairy showed no sickness there, and no sickness had arisen in other places supplied by it; the infection, therefore, did not arise there. The milkman F., however, who had been ailing since March 20, was found on April 2 to be suffering from typhoid, and the diagnosis was confirmed at autopsy on April 10. This adequately explains the typhoid in the train of F.'s milk supply, as he had been handling the milk himself up to April 2, when he took to his bed. It is suggested that the contamination of Q.'s supply may have resulted from the fact that F. and Q. returned their cans only washed but not sterilized to the car, and that an interchange of cans may repeatedly have taken place, for there was nothing to prevent Q. from subsequently receiving cans that had formerly been supplied to and handled by F.

4. **Ethmoiditis and Otitis from the Swimming Tank.**—Cobb warns against the danger of diving in swimming tanks, whereby cases of ethmoiditis and acute otitis media are not infrequently transmitted. He reports three cases in support of his view.

New York Medical Journal.

July 4.

6 *Dissecting Aneurism of the Aorta and Pulmonary Artery Following Rupture of the Arch of the Aorta. L. Brown, Saranac Lake, N. Y.
7 *Relation of Locomotor Ataxia and Paresis. J. R. Hunt, New York.
8 Glioma of the Brain. E. E. Mayer and F. Proescher, Pittsburg, Pa.
9 Light in the Treatment of Disease as Used at Boulder Lodge Sanatorium, *Fort Dodge, Iowa.* J. W. Kime, Fort Dodge, Iowa.
10 *Another Method of Regulating Pressure in the Bier Treatment. R. Grace, New York.
11 Broken Jaws. D. B. Freundlich, New York.
12 Treatment of Tuberculosis of the Upper Air Passages. J. W. Gleitsmann, New York.
13 Postdiphtheritic Multiple Neuritis with Vesical Involvement. C. D. Camp, Ann Arbor, Mich.

6. **Dissecting Aneurism of the Aorta and Pulmonary Artery.**—Brown reports a case of rupture of the arch of the aorta in which the usual course of the blood along the thoracic and abdominal aorta was interfered with, probably by certain scars on the transverse and descending portions of the aorta, so that the blood was forced toward the heart and along the pulmonary artery. Why it pursued this course instead of following the vessels of the neck is difficult to state.

7. **Locomotor Ataxia and Paresis.**—Hunt considers that there is no question concerning locomotor ataxia of greater importance than the relation which this affection bears to general paralysis of the insane. The importance is not merely clinical, but bears also on the nature and the etiology of both diseases. He confines his remarks to the combinations of the two diseases and the nature and significance of the so-called taboparesis, which he discusses as regards its clinical type and pathology. He further considers the relation of locomotor ataxia with other psychoses—paranoia, manic-depressive insanity, dementia præcox, and various mental states following drug addictions. He concludes that tabes dorsalis, dementia paralytica, and the combined form of the two affections, all have the common etiologic factor of an antecedent syphilis. The pathologic alterations in the cerebral cortex and the spinal cord are essentially the same in both the isolated and the combined forms. The clinical combinations of tabes and paresis are so varied and so numerous that a gradual transition may be traced from locomotor ataxia, on the one hand, to general paralysis of the insane on the other. In fact, it may be said that the more our knowledge of these parasyphilitic affections of the brain and spinal cord increases, the more significant appears their combination, and the stronger becomes the tendency to regard them all as essentially of the same nature and origin.

10. **The Bier Treatment.**—Grace describes, with an illustration, a method of using Bishop's hydrostatic sphygmomanometer for regulating pressure in the Bier treatment.

Medical Record, New York.

July 4.

14 *Miracles at Tomb of B. François de Paris. J. Collins, New York.
15 Recurrent and Abductor Paralysis of the Larynx. J. W. Gleitsmann, New York
16 Dietetic Treatment in Dilatation of the Esophagus. M. Einhorn, New York.
17 Inflammation of the Circumflex Nerve. C. P. Olsen, Minneapolis.
18 Cerebrospinal Meningitis Treated with Antimeningitis Serum. H. N. Moeller, New York.
19 *Collapse After Injection of Diphtheria Antitoxin. P. L. Taylor, New York.

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59. **Kidney Lesions in Infant.**—Brady refers to the so-called physiologic albuminuria of the new-born, for which he has not found a satisfactory explanation in the literature. He suggests that it may be explained in part by the excessive desquamation of epithelial cells from the urinary tract frequent in the first days of life. Nucleoalbumin is a product of epithelial cells lining the mucous membrane. This condition should not be termed albuminuria at all. The routine examination of urine of infants should be more frequent than it is. In males, the urine may be secured by tying a rubber bag about the penis, in females by placing a glass vessel over the vulva and causing contraction of the bladder by a cold hand. Nephritis can not be based in infants on the presence of casts and albumin in the urine since slight degenerative changes may cause them. Nephritis in infants is usually mild and secondary to pathologic processes elsewhere. Slight nephritis can not be diagnosed *intra vitam*.

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63 *Hydrotherapy in Childhood F Grosse New York
64 Use of Analgesics in Pediatric Practice L G Kerr Brooklyn, N Y

58 **Pathology of Kidney Lesions in Infants**—Thompson describes the autopsy result in 50 cases of infants that came to autopsy, undertaken to investigate the idea advanced that nephritis is commoner in infants than is generally supposed In 23 cases death was due to bacterial infection, in 27 cases not to bacterial infection From a pathologic standpoint all lesions of the kidney are grouped primarily as (1) acute, (2) chronic, and secondarily as (a) degenerative, (b) exudative, and (c) proliferative Errors of development were represented by *occlusion of the ureter by congenital narrowing of its* bladder insertion and a unique fetal anomaly consisting of abnormal hyperplasia of the pyramidal portion of a fetal lobule in one kidney The tubules of cortex and pyramid failed to join, and there was a zone of undifferentiated tissue between the two segments, with resulting cystic dilatation of tubules Thompson considers the case to offer strong evidence of the dualistic theory of kidney development Uric acid infarcts were frequently found calculus only once, kidney cysts were present in 10 per cent of the cases Congestion was often extreme With regard to inflammation he finds that marked disturbances of the circulation and slight or moderate degenerative processes are exceedingly common in the infant kidney These processes, while they undoubtedly give rise to albumin and casts in many instances, are of a type that is easily repaired, and probably do not influence the permanent integrity of the kidney Severe kidney lesions such as permanently injure the kidney parenchyma or lead to death, are rarely *found in routine autopsies in infants*

59 **Kidney Lesions in Infant**—Brady refers to the so called physiologic albuminuria of the new born for which he has not found a satisfactory explanation in the literature He suggests that it may be explained in part by the excessive desquamation *of epithelial cells from the urinary tract frequent* in the first days of life Nucleoalbumin is a product of epithelial cells lining the mucous membrane This condition should not be termed albuminuria at all The routine examination of urine of infants should be more frequent than it is In males, the urine may be secured by tying a rubber bag about the penis, in females by placing a glass vessel over the vulva and causing contraction of the bladder by a cold hand Nephritis can not be *based in infants on the* presence of casts and albumin in the urine, since slight degenerative changes may cause them Nephritis in infants is usually mild and secondary to pathologic processes elsewhere. Slight nephritis can not be diagnosed *intra vitam*

62 ***Stimulants in Pediatrics.***—Welt Kakels says that recovery from acute disease is dependent largely on the relative in

tegrity of the heart muscle. The prevention of its impairment is accomplished rather by avoiding depressing drugs than by the early administration of cardiac stimulants which are not indicated until weakness of the heart becomes evident. Alcohol is one of the best heart stimulants. Children tolerate it well and the author would not like to be without it at the bedside of a feverish child. It may be given earlier in lobar pneumonia than in other acute fevers, good brandy or whisky, 2 to 4 grams (30 to 60 minims), well diluted for a child of one year, or twice that amount for one of from 3 to 4 years. It is valuable in septic cases with asthenia, in erysipelas, and in septic varieties of diphtheria or scarlet fever. Digitalis, strophanthin or strychnin, besides alcohol, is indicated in acute fevers by weakened first sound, exhilarated pulse and reduced arterial tension. Cumulative effect is more frequent in children than in later life. In extreme cases of heart failure, in addition to the drugs named, camphor or caffein is at our disposal. The author also discusses the uses of nitroglycerin, oxygen, venesection and hypodermoclysis.

63 **Hydrotherapy.**—Grosse describes the uses of hydrotherapy in childhood. It is particularly a useful and ready measure in summer complaints and chronic digestive disorders, and in all cases of faulty metabolism. No hydriatic measure is possible, however, without a thermometer or a watch, for exactness is important.

American Journal of Urology, New York.

May

65 Symptomatology, Diagnosis and Treatment of Impacted Renal Calculus. I. M. Johnson, Boston.
66 *Prostatic Disease in the Diabetic. H. Stein, New York.
67 Treatment of Movable Kidney. S. Metrovitch, Odessa, Russia.
68 Pyuria. F. Legueu, Paris.
69 *Plea for Prompt Use of Retrograde Catheterization in Surgical Treatment of Impassable Stricture of the Urethra. L. Jonas, St. Louis.
70 Prostatectomy and Bladder Stone. R. Harrison, London, Eng.

66 **Prostatic Disease.**—Stein says that prostatic disease in the diabetic is commonly overlooked by the family physician who is wont to ascribe certain symptoms of the former to the diabetic syndrome. A prostatic state may ensue in the diabetic ten, twenty or more years earlier than in the normal individual. Early prostatism in the diabetic may be the result of gonorrheal prostatitis in which the sugar laden urine has participated in the perpetuation of the inflammatory process or it may be due to another infection, or the pathologic changes in the gland may have been evoked by the direct action of the urinary glucose, its yeasts and fungi, or, finally, nutritive or secretory disturbances of the gland may have been the cause. The early prostatic state in diabetics is much akin to the same condition consequential to senile hypertrophy, except that in early non-infectious hypertrophy all three lobes of the glands are usually involved. The pre-senile prostatic state in the diabetic appears at the onset in the form of transitory seizures. Gradually the attacks diminish in severity and attain a certain degree of chronicity. Prostatic disease of infectious origin may antedate the diabetic state, senile hypertrophic changes in the prostate may exist prior to the outbreak of diabetic phenomena, the prostatic disease may be the result of the diabetic urine, the condition may be the consequence of the self-same causes which give occasion to the diabetic deterioration or it may be a direct result of the latter. Constitutional prostatism, the form of chronic prostatic disease due to systemic disorder or decline, is probably the mediate consequence of an inflammatory process starting in the blood vessels and connective tissue structures of the gland itself. The changes in the prostate in constitutional prostatism are of similar character to those found in other organs of the affected individual. Unless antidiabetic treatment is applied, prostatic disease in the diabetic will not improve, in spite of all local therapy.

69 This article was published in the *Medical Fortnightly*, June 10, and was abstracted in The Journal, July 11, p. 167.

Western Medical Review, Omaha.

May

71 *Clinical Manifestations of Ileus. A. I. Jonas, Omaha.
72 *Treatment of Ileus. B. B. Davis, Omaha.
73 Conservative Treatment of Frontal Sinus Disease. G. H. Bicknell, Omaha.
74 Fibroids Complicating Pregnancy, Labor and Puerperium. P. Findley, Omaha.

71 **Ileus.**—Jonas says that it is often difficult to distinguish between the dynamic and mechanical ileus, but one can determine with a fair degree of accuracy many cases wherein the fecal current has been stopped by mechanical causes. In a case of postoperative bowel obstruction, in which paroxysmal pain especially if localized, is a prominent feature, particularly where there is active local or general borborygmus, a recurring peristalsis that seems to cease at a given point—determinable by a stethoscope and sometimes visible through thin abdominal walls—and when the movement of intestinal gases can be heard by the unaided ear, a mechanical ileus is more than probable, but when an operation is followed by obstinate bowel obstruction that can not be relieved by the usual means, when such an obstruction is manifested by a general abdominal tenderness and pain, an absence of local tenderness, increasing tympanites, an absence of all peristalsis, with an elevated temperature, an increased pulse rate, restlessness of the patient and an anxious and distressed facial expression, it is certain that we have to deal with dynamic ileus.

72 **Treatment of Ileus.**—Davis holds that late operations are the cause of the former high mortality in mechanical ileus. The stomach should always be washed out before operating. Rapidity, without haste, and gentleness are required, and not too much should be attempted. When the coils of intestine are greatly distended they should be emptied of toxic contents as completely as possible. If resection is required it should be undertaken at the primary operation only when the patient's general condition warrants it.

Wisconsin Medical Journal.

May

75 Effects of Upper Respiratory Obstruction. E. M. Turner, La Crosse.
76 Case of Korsakoff's Psychosis. I. O. B. Wingate, Milwaukee.
77 *Drinking Water—Its Use and Abuse. I. H. Voje, Oconomowoc.

77. **Drinking Water.**—Voge discusses the need of drinking water, and says that if water, cold or hot, is recommended but for a short time it certainly may do a great deal of good especially also if the diet is corrected and plenty of exercise taken. The drinking of very cold water is certainly harmful. He sums up his observations practically as follows: An ideal drinking water is clear, tasteless, gives no nitrate reaction, contains a small amount of earthy and alkaline salts, some carbonic acid gas, and has a temperature of about 50 degrees. The continuous use of ice water is harmful; it paralyzes the gastric and duodenal nerves. Filtered lake, river and rain water come next to pure spring or well water in wholesomeness. Boiled water is repulsive, non-refreshing, and should only be used when good natural water can not be obtained. Distilled water is harmful to the system because it abstracts from our cells vital salts, especially iron salts, thus disturbing electric equilibrium and reducing the power of resistance. Distilled waters have long been discontinued in eyewashes on account of the irritation of the conjunctiva resulting from their use. Any drinking water, if persistently taken in excess, is harmful, it produces hydremia, which interferes with proper oxidation. The cell tone is gradually lessened, the power of resistance is reduced, and the door is opened to infection and chronic ailments of an asthenic nature, it overburdens the circulatory apparatus and aids in producing arteriosclerosis. Water is an excellent vehicle for medicines and minerals. An excellent example of this we have in the natural mineral waters of the earth. As a remedial agent the mineral waters, if properly selected according to indications, are superior to the drugs in many ailments. Mineral waters should be used and taken at their origin. Many springs have compositions, gases or radioactive elements or contain even radium, all of which qualities would be destroyed or altered in bottling and shipping. For a number of years physicians have made use of water to carry chlorid of sodium into the blood or tissues, with happy results as a reviver.

New Orleans Medical and Surgical Journal.

May.

78 *Operations on the Tubes and Ovaries. G. R. Fox, Moreauville, La.
79 *Cases of Infantile Scurvy. E. D. Fenner, New Orleans.
80 Laryngeal Tuberculosis. H. Dupuy, New Orleans
81 Early Symptoms of Pulmonary Tuberculosis. G. S. Bel, New Orleans.
82 Electricity in Medicine. N. F. Thiberge, New Orleans.
83 Medicolegal Consideration in Cases of Mental Defect or Disease. E. M. Hummel, New Orleans.
84 *Is Sexual Continence Compatible with Health? C. Chassaignac, New Orleans.
85 Malarial Hematuria. O. M. Patterson, Bastrop, La.
86 Trachoma. W. L. Egan, Shreveport, La.
87 Hypodermic Treatment of Syphilis. C. J. Gremillion, Alexandria, La.

78. **Operations on Tubes and Ovaries.**—Fox describes the indications for operation on the ovaries and tubes, respectively, and summarizes the arguments in favor of conservatism. He discusses the internal secretion of the ovary and the question of ovarian transplantation, summarizing his conclusions as follows: A majority of gynecologists favor conservatism. The number of pregnancies occurring after tubal operations is very small; the results after plastic work on the ovaries are better: age, the presence of pus, tuberculosis and malignant disease indicate, as a rule, radical work; the prolapsed ovaries, generally speaking, should be elevated in the pelvis by suspension operations on the uterus, by shortening the ovarian ligament, or by placing the ovary in front and on top of the broad ligament; the functions of the tube and the ovary should be conserved whenever consistent with health; the artificial induction of the menopause brings serious disturbance into the life of the patient, and, finally, ovarian transplantation, experimentally and clinically, has in a limited field been productive of satisfactory results.

79. **Infantile Scurvy.**—Fenner discusses the pathology and symptomatology of infantile scurvy and its relation to feeding. He describes cases to indicate the variety of the clinical manifestations that it may present.

84. **Sexual Continence.**—Chassaignac discusses the question whether sexual intercourse is a physiologic necessity in the adult, abstention being *per contra* injurious in health, and answers in the negative. He adds: I have noticed only three classes of individuals who are apt to be noticeably disturbed by continence: those who have been indulging in intercourse regularly and who without inhibitory interposition of some physical ailment or mental shock, are suddenly deprived, but the effect in these is only temporary and they can adjust themselves to the new condition, as is evidenced by the gradually diminishing frequency of involuntary nocturnal emissions; secondly, those who are to a great extent idle or dissipated, and who, while they are continent for some probably compulsory reason, do not avoid temptation or try to keep their minds free from impure thoughts; lastly, those whose sexual organs are to a certain degree in a pathologic condition.

Northwestern Lancet, Minneapolis.

June 15.

88 *Indications for Craniotomy. R. E. Farr, Minneapolis
89 *What Is Constituted in Insanity? H. A. Tomlinson, St. Peter, Minn.
90 Ideal Medical Education. F. F. Wesbrook, Minneapolis.

88. **Cranial Surgery.**—Farr urges a careful scrutiny of all head injuries and the elevation of all depressed fractures, whether simple or compound; craniotomy in the presence of focal symptoms after an injury to the head, and in epileptics in whom the evidence points to the possibility of trauma as a cause. In cases presenting evidence of brain tumor, trephining should be done, either to remove the tumor, or, if that is impossible, to prevent blindness.

89. **Insanity.**—Tomlinson says that primarily, in determining what is constituted in insanity, we have to deal with the cerebral potentiality of the individual, as influenced by the conditions in his environment which exhaust his potentiality directly by overtaxation, or indirectly by the influence of impaired vitality in the general organism on the limited mental capacity of the individual. He calls attention to the fact that general conditions are practically uniform for all persons subjected to their influence, and that if they are harmful to some it is because of an inherent weakness in the individual that unfits him to adapt himself to them. The result is apparent to all, but strangely enough, Tomlinson says, it has not been recognized that the lack of mental capacity that shows itself in imperfect control, and incapacity for persistent effort and definiteness of direction is the evidence of instability and defect, and, therefore, the expression of a limited potentiality.

Therapeutic Gazette, Detroit.

June 15.

91 *Local Use of Magnesium Sulphate Solution in Erysipelas. H. Tucker, Philadelphia.
92 Hypersusceptibility of Man to Horse Serum. F. Royer, Philadelphia.
93 Pathology in Its Practical Bearings on the Treatment of Certain Diseases of the Skin. L. D. Bulkley, New York.
94 Opium Habit in North China. J. H. Ingram, Tungchow, China.
95 *Abuse of Arsenic in the Treatment of Diseases of the Skin and the Deleterious Results That May Occur from Its Injudicious Employment. J. F. Schamberg, Philadelphia.

91. **Magnesium Sulphate Solution in Erysipelas.**—Tucker reports the good results obtained at the Philadelphia General Hospital, in his ward, in 19 exceptionally severe or complicated cases of erysipelatous infection. In 35 uncomplicated cases all patients recovered in from two to seven days, the pain and local discomfort being relieved in a few hours. No other treatment was given. He describes the technic as follows: The application consists of a saturated solution of magnesium sulphate in water. This is applied in facial cases on a mask consisting of from fifteen to twenty thicknesses of ordinary gauze, of sufficient size to extend well beyond the area involved, a small opening being made to permit breathing: no opening, however, is cut for the eyes. The mask is then thoroughly saturated with the solution, applied and covered with oiled silk or wax paper, and wetted as often as necessary to assure a moist dressing—usually once in two hours, depending on the time of year or the temperature of the room. The dressing should not be removed oftener than once in twelve hours, to permit an inspection of the parts, and then should be immediately reapplied; the infected area should not be washed while the treatment is employed.

95. **Dangers of Arsenic.**—Schamberg considers the uses of arsenic in medicine and discusses its toxic symptoms. He considers the drug unreliable and in a large number of skin affections of little or no utility. It is most useful in psoriasis, lichen planus and acute pemphigus, but it is excessively and indiscriminately prescribed by many practitioners. It may produce profound structual changes in the nerve, aggravate inflammatory dermatoses, give rise to various erythematous, papular and vesicular eruptions, simulating dermatoses, and cancer of the skin has been reported as following its long-continued use. Practitioners should, therefore, exercise greater care and not prescribe it in the absence of specific indications, and such prescriptions should not be renewed without sanction.

Journal of the Tennessee State Medical Association, Nashville.

June.

96 *Medical Organization; Its Purposes and Possibilities. A. B. Cooke, Nashville.

96. Abstracted in THE JOURNAL, April 25, 1908, p. 1372.

Texas State Journal of Medicine, Fort Worth.

June.

97 *Progress of Medicine in Texas. C. E. Cantrell, Greenville.

97. **Progress of Medicine in Texas.**—Cantrell, among other things, gives a ten years' retrospect of Texas medicine and discusses sanitary measures in relation to boards of health and the industrial value of public health protection. In order to show results of boards of health, he gives graphic representations of deaths from typhoid, tuberculosis, malaria, diphtheria, scarlet fever and measles in various states, showing the decrease in these diseases under efficient sanitary administration.

Annals of Surgery, New York.

June.

98 *Reminiscences of the Early Days of the American Surgical Association. J. E. Mears, Philadelphia.
99 *Psychical End-Results Following Major Surgical Operations. J. G. Mumford, Boston.

100 *Surgical Aspects of [illegible] Reference to the Psychic Factor [illegible]
101 *Late Results After [illegible] Diseases of the Stomach and Duode[illegible] Leeds, Eng
102 *Gastric and Duodenal Ulcers W. J. Mayo, Rochester, Minn
103 *End Results Following Operation for Benign Diseases of the Stomach and Duodenum J. B. Deaver, Philadelphia
104 *How Frequently Do Gastric Ulcers Become Carcinomata? W. L. Rodman, Philadelphia
105 *Gastric and Duodenal Ulcers Secondary to Wounds of the Urinary Bladder J. B. Roberts, Philadelphia
106 *Melanotic Sarcoma of the Common Bile Duct and the Ampulla of Vater F. J. Shepherd, Montreal
107 *Experiments in Flushing the Intestinal Canal with Salt Solution Through Multiple Enterotomy Openings G. H. Monks, Boston
108 *Primary Carcinoma and Sarcoma of the Appendix R. H. Harte, Philadelphia
109 *Carcinoma of the Appendix with Metastasis to the Ileocolic Glands R. G. Le Conte, Philadelphia
110 *Splenectomy in Banti's Disease J. E. Summers, Jr., Omaha
111 *Stone in the Bladder with Intermittent Pneumaturia for Three Years and Subsequent Formation of Fecal Fistula A. T. Bristow, Brooklyn, N. Y.
112 *Nephrolithiasis D. Barrow, Lexington, Ky
113 Treatment of Fractures of the Femur O. H. Allis, Philadelphia
114 *Modern Medicine and Surgery in the Orient J. E. Mears, Philadelphia

98 Abstracted in The Journal May 23, 1908, p 1718

99, 106 and 111 Abstracted in The Journal June 20, 1908, pp 2102, 2103 and 2104

100 and 107 to 110 Abstracted in The Journal, June 27, 1908, pp 2150 and 2151

101 to 105 and 112 Abstracted in The Journal, May 30, 1908, pp 1822, 1823 and 1825

114 This article also appeared in the *Boston Medical and Surgical Journal*, June 11 and 18

Journal of Cutaneous Diseases, New York.

May

115 Hydroa Puerorum (Unna) M. Haase, Memphis, and R. Hirschler, Philadelphia
116 Framboesia Tropica (Yaws, Pian, Bouba) A. Castellani, Colombo, Ceylon
117 A Palliative Treatment of Elephantiasis Id

Maryland Medical Journal, Baltimore.

May

118 Growth of Our Knowledge of Infectious Diseases J. H. M. Knox, Baltimore
119 Postoperative Complications of Peritonitis R. Winslow, Baltimore

Progressive Medicine, Philadelphia.

June

120 Hernia W. B. Coley, New York
121 Surgery of the Abdomen, Exclusive of Hernia E. M. Foote, New York
122 Gynecology J. G. Clark, Philadelphia
123 Diseases of the Blood Diathetic and Metabolic Diseases Diseases of the Spleen Thyroid Gland and Lymphatic System A. Stengel, Philadelphia
124 Ophthalmology. E. Jackson, Denver

Iowa Medical Journal, Des Moines.

May

125 Points in the Differentiation of Organic and Functional Nervous Diseases F. T. Stevens, Mount Pleasant
126 Chorea Gravis F. A. Ely, Des Moines
127 Laryngeal Diphtheria H. G. Langworthy, Dubuque
128 Anesthetics C. M. Linehan, Chicago

Monthly Cyclopedia and Medical Bulletin, Philadelphia.

May

129 Autoprotective Resources of the Body—A New Foundation for Scientific Therapeutics C. E. De M. Sajous, Philadelphia
130 Therapeutics in the Light of Ecology J. V. Shoemaker, Philadelphia
131 United States Pharmacopeia from a Physician's Standpoint J. M. Anders, Philadelphia

Colorado Medicine, Denver.

May

132 Infant Feeding Methods F. P. Gengenbach, Denver
133 Solutions of the Problem of Infant Feeding E. S. Pratt, Denver
134 Food Adulterations in Relation to Health E. C. Hill, Denver.
135 *Torsion of the Omentum W. W. Grant, Denver
136 Case of Congenital Syphilis F. W. Kenney, Denver
137 Case of Interstitial Punctate Infiltration of the Cornea F. R. Spencer, Boulder

135. Abstracts in The Journal, Feb 1, 1908 p 397.

Journal of Outdoor Life, Saranac Lake, N. Y.

May

138 Suggestions to Ex-Patients H. S. Goodall, Lake Kushaqua, N. Y.
139 Maryland State Sanatorium H. W. Buckler, Baltimore
140 A Fresh Air School E. A. Stone, Providence, R. I.
141 Fresh Air Methods at the Home for Consumptives, Chestnut Hill, Pa M. Topham

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

Lancet, London.

June 20

1 Melitensis Septicemia J. W. H. Eyre
2 *Congenital Dislocation of the Hip and Its Treatment. H. A. T. Fairbank
3 *Supports in Chief of the Female Pelvic Viscera R. H. Paramore.
4 *Thirty Consecutive Cases of Appendicitis with Diffuse Peritonitis C. A. R. Nitch
5 Measurement of the Stereoscopic Visual Acuity. G. T. B. James
6 Acidity of the Urine F. A. Watkins
7 Sarcoma of the Right Os Innominatum Simulating Appendix Abscess E. H. R. Harries.

2. Congenital Dislocation of the Hip.—Fairbank says that the condition of the hip joint varies according to the age of the patient; the older the child, the greater the alteration in all structures composing the joint. He describes the changes in the acetabulum and capsule. The femur is often well formed, the most obvious thing about it being the size of the head, which is disproportionately large as compared with the acetabulum. The upper end of the bone is almost invariably imperfectly ossified; the neck is short and may be depressed. An increase of the angle made by the axis of the neck of the bone with the transcondylar line is very common. The pelvic deformity, apart from the change in the acetabulum, is not of much practical importance, as even in bilateral cases little, if any, obstruction to delivery is offered during labor (congenital dislocation of the hip is far commoner in females than males—about 86 to 14 per cent). The conjoint rami of the pubis and ischium show imperfect ossification. The head of the femur may be displaced upward and backward, or upward and forward, or forward only. A general laxity of ligaments may be present, and occasionally a number of other deformities. Of signs and symptoms, even before the child walks, something may be noticed wrong with the position or shape of the leg. When walking is begun, a progressive limp and swaying over the hip are noticed, the patient gets tired easily, there is a difference in contour of the trochanteric region Lordosis is present only in unilateral cases in older children The affected leg is shorter, the trochanter displaced upward and usually backward. Fairbank doubts whether Nélaton's line is of any assistance and hardly ever makes use of it in children. The movements of the limbs are commonly limited in abduction and internal rotation. The "telescopic movement," he thinks, is more difficult to make sure of and less reliable than that of feeling the head of the femur in its abnormal position, but it is a valuable confirmatory sign and should always be looked for. In bilateral cases the symptoms and signs are similar, and in most cases more marked, the gait is worse and quite characteristic. As to treatment, he discusses in considerable detail the Lorenz, or bloodless method, and the open methods of Hoffa Lorenz and Burghard. The dangers of the Lorenz method—which the author describes in detail—are avoidable, but must never be forgotten: they are, fracture of the femur or pelvis and injury to the peroneal, anterior crural, and sciatic nerves. As to the ultimate results, the walk is not likely to be a good one until some time after the leg has come down to its normal condition. It must be remembered that every anatomic cure is not necessarily accompanied by a perfect functional result, though it is so in the majority of cases

3 See Abstract No 36.

4 Appendicitis with Diffuse Peritonitis.—Nitch points out that by lavage of the peritoneum the protective phagocytes are washed away and myriads of highly infected bacilli are carried by the stream to remote parts of the abdominal cavity, there to infect fresh areas of the peritoneum and cause degeneration of the few remaining protective phagocytes. He shows, by a table contrasting the results of cases dealt with by general irrigation and by dry sponging or local irrigation respectively, that the mortality has fallen from 82 per cent. under the former method to less than 10 per cent. under the latter. He records 30 cases with 3 deaths in patients treated by the dry sponging method. On returning to bed after operation the patients were placed in the Fowler position, and in addition, the pillows were so arranged as to tilt them well over to the right side. Continuous rectal infusion only attempted in one case, was soon discontinued owing to the alleged discomfort which it caused. Four patients who were very ill, with a rapid pulse, frequent vomiting, and abdominal distention, received immediate relief from subcutaneous injections of anti colon bacillus serum. A large dose of calomel was always administered twelve hours after operation and if necessary, followed in another twelve hours by large turpentine enemata. In the majority of cases convalescence was rapid and uninterrupted.

British Medical Journal, London.

June 20 (Hospital Number)*

8 *Nine Hundred Cases of Tuberculous Disease of the Hip. A A Bowlby
9 *Functions of an Out Patient Department. W Osler
10 The Future of the Voluntary Hospital and Its Relation to a Reformed Poor-Law Medical Service. L E Shaw
11 General Hospitals and the Provident System. F C Beale
12 Home Hospitals for the Middle Classes. G Rankin
13 Notes on the Construction of Cottage Hospitals. H P Adams
14 Separate Operating Rooms and Their Management. G G Hamilton
15 Promotion of Uniformity in the Registration of Diseases in Hospitals. R. F. Tobin
16 Dental Needs of the Poor of London. J G Turner

*Hospital Number.—In addition to the original articles listed above—of which eight refer to hospital affairs—this number contains a series of fifteen editorial articles on various matters connected with hospitals, e. g., the administration of operating theaters, the evolution of the hospital, hospital management, hospitals and taxation, the hospitals of Germany, Paris, Manchester, Edinburgh, Dublin, etc., the neurologic and psychiatric clinics of Germany, and others of more local interest.

8 **Tuberculous Hip Disease.**—Bowlby discusses 900 cases of tuberculous hip joint treated at the Alexandra Hospital without operation (other than the opening of abscess) by rest and extension, good nursing and food, with a mortality of less than 4 per cent. In about 40 cases both hips were affected. There used formerly to be a rule excluding incurable cases, but since Bowlby has been connected with the hospital he has not refused admission to any case, because he does not think that any cases are incurable, however bad the children are. For twenty one years he has not treated one of these cases, in either hospital or private practice, by excision of the hip or amputation. He discusses the treatment, complications and condition on discharge and the importance of treating the patient, not merely the disease, for all tubercle can not be removed from all parts of the body. No child is allowed to walk on the bad leg for at least a year after he is well enough to be up and about on crutches. Bowlby's cases are kept under observation for many years after their discharge. The treatment employed by Bowlby makes no claim to originality. It is described as follows: First, there is absolute rest in the recumbent posture; the child must not even be allowed to sit up at all, because sitting up causes movement at the hip joint. The joints involved are kept absolutely quiet, and, if necessary, splints are used to insure this at first. Extension is applied in the long axis of the limb in the position in which that limb lies most easily. In many cases when a child is put to bed the joint may be kept fixed, in other cases it may be slightly adducted, and in still other cases it may be abducted, but at first, extension is applied in the axis of the displaced limb. As the muscles allow the limb to come into a better position the leg is to lie flat on the bed, the object of this being to put the limb into the best position for subsequent progression, supposing that, as will happen in many cases, the joint is stiff ultimately. The amount of weight to be applied to the limb to effect extension is small. Very few children require more than two pounds, and they are often comfortable with only one pound. A few cases have required three or four pounds. He does not think any child under 12 years of age will require more than a four-pound weight for the purposes of extension, and that only for a short time. As to abscesses, he insists on these being opened aseptically, cleaning out the contents thoroughly, but gently, and draining for a few days. He thinks that there is too great a tendency to numerous incisions. The general treatment means good food, great care in dressing wounds, iron and cod liver oil, and free use of open air treatment. Lately he has used the new tuberculin treatment and has seen quite a definite improvement in many cases under its use. He discusses excision and concludes that "excision of the head of the bone is never required in the treatment of tuberculous disease of the hip" and holds himself justified in this conclusion by the results he has seen without operation.

9 **Hospital Out-Patient Department.**—Osler describes the functions of the hospital out patient department as, (1) first aid to all emergency cases of whatever kind; (2) attendance on those too poor to pay a minimum physician's fee; (3) a free source of consultation for practitioners in respect of their poorer patients who can not afford to pay consultant's fees; (4) relief of the "occasional poor," those who pay ordinary medical bills, but whose means are altogether inadequate to the cumulative expenses of a serious operation, e. g., for appendicitis; (5) as a training school for younger members of the profession; many great reputations have been built up almost entirely on out patient work. Osler considers it a radical defect of the English system that as a rule no provision is made for pay patients.

Clinical Journal, London

June 17

17 Descending Testis. C M Moullin

Medical Press and Circular, London.

June 17

18 How to Distinguish Different Varieties of Chronic Deafness. A Malherbe
19 *Dangers and Treatment of Myoma of the Uterus. C Martin
20 Alcoholism and Cruelty to Children. R J Parr

19 Published in the *Lancet*, June 6, 1903.

Practitioner, London.

June

21 Progressive Muscular Atrophy. G Rankin
22 Suprapubic Prostatectomy. B G A Moynihan
23 *Cholecystitis. K W Monsarrat
24 Diagnosis and Treatment of Empyema of the Maxillary Antrum. J G Connal
25 *Puerperal Eclampsia Treated by Renal Decapsulation, with Remarks on the Treatment of Eclampsia. R J. Johnstone
26 Retrodeviations of the Uterus and Their Treatment. W B Bell
27 *X Rays in the Treatment of Cutaneous Tuberculosis. J G Tomlinson
28 Henoch's Purpura Associated with Angioneurotic Edema. A. Don
29 Review of Clinical Pathology. W D Emery

23 **Cholecystitis.**—Monsarrat points to the necessity for further clinical study of cholecystitis as a well defined abdominal inflammatory lesion, and more particularly for its separation from the other affections of the bile channels with which gallstones are associated. Further, he suggests that its proper method of study must be based on the conception of infection as the causative agent from beginning to end, and on the recognition that, although gallstones modify by mechanical influences, the course and persistence of the inflammatory process, yet they are not in any proper sense the cause of this process. Gallstone disease is a term that should disappear.

25 **Puerperal Eclampsia Treated by Renal Decapsulation.**—Johnstone reports a case and concludes that the value of decapsulation is not proved, but he would not hesitate to recommend an operation so easily performed, and with many theoretical considerations in its favor, in any severe case of eclampsia which did not yield readily to other remedies. As regards the disputed question whether it is better to empty the uterus at once on the onset of the fits, or to wait for full dilatation of the os, his opinion inclines to the view that the sooner the uterus is emptied the better for the patient.

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Phenol	50
Lactic acid	15
Salicylic acid	15
Alcohol, absolute	20

Well agitated before application, as there is a considerable sediment.

A few minutes later the lesion is painted with the following:

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Phenol	80
Alcohol, absolute	20

Where the lesion is extensive it should be cauterized piecemeal. After cauterization it is dressed for a day or two with sterilized lint and carbolic oil (1 in 30); thereafter with a 20 per cent. aqueous solution of ichthyol until healing has taken place. After healing, *x*-ray treatment is recommenced with short exposures of from three to five minutes. At the end of three or four months treatment is discontinued for a considerable time, the patient being subjected to periodic inspection. Tomkinson discusses the disadvantages and advantages of this treatment and says that many cases of a markedly virulent character and of many years' duration have yielded to it.

Quarterly Journal of Medicine, London.

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Chloroma is chiefly a tumor of myeloblasts, and arises in the red bone marrow. Perhaps in some cases all the undifferentiated marrow cells are affected, yet myeloblasts always form the majority. The condition lasts longer than acute leukemia, owing to the narrow lesion remaining focal for a longer time, thus allowing these cells to form metastases before the marrow is generally affected.

Acute myelogenous leukemia, a rare condition, is of a similar nature. If the disease were more focal in origin, and therefore clinically less acute, we should get chloroma. We thus have the apparent paradox of a tumor which is pathologicaly less malignant, but clinically more malignant.

Chronic myelogenous leukemia is a tumor affecting myelocytes and to a far less extent the undifferentiated marrow cells which produce them.

Chronic lymphatic leukemia also originates in the marrow. The glands and spleen, however, can not be positively excluded is every case. It is chiefly a disease of the lymphocytes, but amphoblasts occasionally predominate in the subacute cases.

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Lymphocytoma.—Myelogenous and glandular. (These correspond to chronic lymphatic leukemia and pseudo-leukemia, respectively.)

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33. **Hereditary Edema of Legs.**—Hope and French describe a case of "Milroy's or Meige's disease" in a girl aged 18, and follow up their observations with a careful genealogic research, showing the malady to have been present in 13 out of 42 individuals in five generations. The following points in which the present cases resemble those recorded by others are given by the authors: 1. The restriction of the edema entirely to the legs. 2. The absence of any traceable cause for the edema, general or local. 3. The strong family predisposition to the complaint. 4. The painlessness of the pale swollen legs (apart from the acute attacks in the author's cases). 5. The absence of constitutional symptoms. 6. The sharpness of limitation of the upper level of the edema. 7. The incidence in both males and females. 8 The permanence of the edema when once it has appeared. The following are points of difference between the authors' cases and those of others: Meige lays stress on the absence of "acute attacks," which occurred on more than one occasion in most of the authors' cases. Milroy emphasizes the fact of the edema being present at birth: Meige calls attention to its appearing at puberty: in the authors' cases not once was it actually noted at birth, and the age at which it first attracted attention was sometimes in infancy, sometimes in boyhood or girlhood before puberty, sometimes not until the teens were passed. Finally, the authors state that the condition differs objectively very much from Raynaud's disease, factitious urticaria, and angioneurotic edema, but they think that there is evidence that underlying both these three conditions and their own cases of Milroy's disease there is a common pathology, namely that of a vasomotor neurosis.

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35 **Caisson Disease**—Boycott discusses the circumstances and pathology of the disease and dwells on the phenomena of bubbles in liquids on which the results of decompression depend In regard to prevention the *rationale* of safe quick decompression is (1) never to allow the nitrogen pressure in the tissues to be more than twice the air pressure and (2) to make the fullest use of the permissible difference of pressure to get the nitrogen out of the tissues He discusses the fallacies of uniform slow decompression As to treatment he says that the only specific treatment of caisson disease is recompression which should be undertaken immediately symptoms appear so as to compress the bubbles again before they cause irreparable damage For this purpose some small chambers supplied with compressed air should be very readily accessible in its absence divers may be put back under water The subsequent decompression must be conducted with great caution Bubbles once formed are not easily reabsorbed

Journal of Obstetrics and Gynecology of the British Empire, London.

June

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36 **Supports of the Female Pelvic Viscera**—Paramore maintains that the pelvic viscera are maintained in their position by two sets of forces The one acts from above and pins so to speak the viscera in their places This is the intra-abdominal pressure The other acts from below supports the viscera and prevents them from being displaced by any excessive force from above These two forces therefore vary directly with each other, increase of the one reflexly produces increase of the other This mechanism is under a nervous control which determines any desired end (coughing defecation etc) The force from below is supplied by the levator ani muscle This is the essential element in the maintenance of a normal visceral position When the pelvic floor is inhibited during defecation, the visceral connective tissue is capable of supporting the viscera temporarily but it is not capable of more than this When the muscle has become insufficient this connective tissue is unable to maintain the viscera in position

37 **Displacements of Pelvic Viscera**—Fothergill discusses the anatomy of the parts involved and describes the different results of relaxation of different parts of the perivascular connective tissue as follows

Relaxation of upper part alone—retroversion

Relaxation of both upper and lower parts—classic prolapse

Relaxation of lower part alone—cystocele and vaginal prolapse

He summarizes the operative treatment as follows

Classical Prolapse 1 Anterior colporrhaphy with union in the middle line of the parametric and paravaginal tissues, posterior colporrhaphy and perineorrhaphy 2 Ventrofixation in addition to the above if the anterior colporrhaphy does not support the uterus in a position of anteversion

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Retroversion demanding Treatment (a) Uterus movable Alexander's operation as an alternative for pessary (b) Uterus fixed Laparotomy separation of adhesions treatment of appendages and securing of uterus in anteversion

38 **Involution of the Uterus**—Longridge formulates the following conception of the process of evolution During labor the powerful contractions of the uterus lead to the development of sarcolactic acid in the uterine wall This acid is neutralized by the circulating blood When the uterus contracts down after the expulsion of its contents it is probable that the formation of sarcolactic acid still goes on but now there is no blood to neutralize it The uterus is therefore left in a condition of anemia and diminished alkalinity two factors which favor rapidity of autolysis No recent opportunity of testing the reaction of a normal involuting uterus has offered itself but the wall of an autolyzing uterus removed by the Porro Cesarean operation was found thirty-six hours after the operation to be of a distinctly acid reaction During the first stage of involution when the circulation through the uterus is slight or even completely absent the products of autolysis are retained in the uterus After four or five days the uterus becomes considerably softened and the blood begins to percolate more freely through the organ The products of autolysis are then washed out and owing to the presence of alkaline blood, the rate of autolysis is very much diminished, and the second or slow stage of involution begins

39 **Chorea in Pregnancy**—Shaw reports 3 cases which confirm the following previously expressed conclusions 1 The chorea of pregnancy is due to a toxin which appears to be identical with or closely to resemble that found in acute rheumatism 2 It affects human subjects under two circumstances both of these being characterized by instability or irritability of the nervous system namely childhood and pregnancy 3 The cause of the instability or irritability of the nervous system in pregnancy, bringing it down to the level of childhood is the toxemia of pregnancy 4 In the chorea of pregnancy therefore *it is more important to remove the predisposing cause* than to apply merely symptomatic treatment 5 The treatment must be eliminative as in the other toxemias of pregnancy 6 The pregnancy should not be arrested as a rule as this is generally unnecessary and harmful to the patient as well as to the child

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40 See Abstract 44 page 174 in The Journal July 11.

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June 13 XVI, No 48 pp 377-384

42 Emergency Treatment of Acute Osteomyelitis in Adolescents P Hardouin
43 *Purgative Properties of Phenolphthalein M Perthoumeau and A Daguin

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Revue de Chirurgie, Paris.

June 10, XXVIII No 6 pp 773-889

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45 Total Colpohysterectomy by Perineal Abdominal Route E Quénu and P Duval
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46 **Goiter in the New-Born**—Fabre and Thévenot have found 130 cases on record The symptoms are practically the same as in adults and section of the isthmus or exothyropexy gives good results These technics not only relieve the threatening compression of the air passages but lead to the retrogression of the goiter An inherited tendency to goiter was observed in a number of cases preventive treatment should always be instituted this includes good general hygiene iodids etc when a woman with goiter or with goitrous children becomes pregnant The newly born baby should be given medical treatment If notwithstanding the attempts to relieve the congestion in the thyroid the child still has difficulty in breathing or if there is danger of suffocation the surgeon should be summoned Tracheotomy should never be considered The goiter may appear as a severe or mild affection or fulminating, but the mild form is by far the most frequent In the cases on record syphilis among the parents was scarcely ever noted and no signs of syphilis could be found in the children later The drinking

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Journal of Obstetrics and Gynecology of the British Empire, London.

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Bulletin de l'Académie de Médecine, Paris.

June 9, LXXII No 23, pp 615-673

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Presse Médicale, Paris.

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water taken by the mother may be responsible for the goiter, although predisposing causes may be provided by persistence of the fetal circulation, compression during delivery and congestion from screaming or writhing.

47. **Typhoid Cholecystitis.**—Quénu tabulates 45 cases in which cholecystitis was operated on during typhoid fever. In 34 cases in which operation was done, the mortality was 22.3 per cent. Cholecystostomy answers the indications as it is rapid and simple and drains the gall bladder sufficiently. In case of danger of perforation the gall bladder should be removed at once, he declares.

Archiv für Verdauungs-Krankheiten, Berlin.

June, XIV, No. 3, pp. 241-367.

48 Histology of Human Stomach. (Histologie des menschlichen Magens.) E. Schutz
49 *Chronic Ulcerative Colitis W. Zweig.
50 Poisonous Properties of Test Meals and of Stomach Rinsing Water. (Giftigkeit der Problemahlzeiten und der Spulwässer des Magens.) A Borri.
51 Toxicity of Stomach Content, Lactic Acid and Certain Foods [illegible] Toxicität des Mageninhalts, der Milch- [illegible].) E. Palier (New York).
52 [illegible] and Treatment of Rumination F. [illegible]
53 [illegible] neues Gastroskop.) H. Elsner.

49. **Chronic Ulcerative Colitis.**—Zweig reviews the literature on this subject. He discusses the indications for various methods of operative treatment, but advises first what he calls rectoscopic treatment, which often proves effectual alone. The rectoscope is inserted as far as possible and then a mixture of a mild astringent and a disinfectant powder, with half the amount of salt, is insufflated. The insufflation is continued as the rectoscope is withdrawn until the walls of the sigmoid and rectum are covered with a thick, even layer of the dry powder. He adds the salt on account of Grützner's observation that salt induces antiperistaltic movements which carry small particles from the rectum up into the duodenum. He has never seen any benefit from administration of bismuth and tannin preparations, but Rosenheim has reported good results from repeated small doses of calomel in the febrile recurrences of colitis. Zweig advocates flushing the lower bowel with a mild disinfectant but warns that tannin and silver nitrate are too irritating.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena.

June 5, XI, No. 10, pp. 369-400.

54 *Suture of Nerves. (Nervennaht) E Oberndörffer Review of the Literature, 1896-1907. Commenced in No. 8.

June 17, No. 11, pp. 401-448.

55 *Erysipelas (Neuere Arbeiten über Erysipel.) V. Bunzl. Commenced in No 9
56 *Inflammation of the Omentum. (Epiploitis.) O. Lederer.

54. **Suture of Nerves.**—Oberndörffer has collected from the literature 287 cases of injury of the nerves requiring surgical treatment, with 340 operations. In 105 out of 128 cases in which the nerve was cut the injury was the work of broken glass. In regard to the outcome of operative treatment the sensibility and the motor functioning are less reliable criteria than restoration of the earning capacity. This was restored in 72 per cent. of the 340 cases of suture of the nerve; partially restored in 15 per cent. and results unknown in 13 per cent. Speiser's compilation of 208 cases in 1902 showed 66.5 per cent. fully restored, and 15.5 per cent. partially, with 18 per cent. failures. The proportion of successes is larger with secondary than with primary suture. The location of the injury does not seem to affect the ultimate results. After the fourth year not much benefit from operative treatment need be anticipated. Complete restitution of the sutured nerve is scarcely possible at any time. In conclusion, he discusses 31 cases of nerve grafting or transplantation. The technic is still far from satisfactory although Létiévant's method of crossing or anastomosing nerves seems essential progress. The gap is bridged with a flap from each of the stumps. This "flap autoplastics" has been applied in seven cases, with good results in all.

55. **Erysipelas.**—Bunzl reviews 307 articles that have been published on erysipelas during recent years, giving the details of treatment according to various authors, both with drugs and antistreptococcus serum and diphtheria antitoxin.

56. **Inflammation of the Omentum.**—Lederer reviews seven articles that have appeared recently as a sequel to his extensive review summarized in The Journal, Feb. 29, 1908, page 735.

Deutsche medizinische Wochenschrift, Berlin.

June 11, XXXIV, No. 24, pp. 1041-1080.

57 Occurrence of Bacteria of Paratyphoid Group in Man, in Animals, Food, Etc. Hübener.
58 Distribution of Paratyphoid Bacilli. W. Rimpau.
59 Nasal Reflexes. A. Koblanck.
60 *Nasal Dysmenorrhea. A. Kuttner.
61 Stomach Secretion After Test Meals. (Vergleichende Studie über die Magensekretion nach Riegelscher Probemahlzeit, Ewaldschem Probefrühstück und Sahlischer Suppe.) Würz.

60. **Nasal Dysmenorrhea.**—Kuttner presents arguments to show that the results of application of cocain to cavernous tissue in the nose are exclusively due to the general action of the cocain and the improvement in the general health which follows restoration of normal permeability in the nose, plus the conscious or unconscious influencing of the patient's imagination.

Münchener medizinische Wochenschrift.

June 9, LV, No. 23, pp. 1217-1264.

62 *Paratyphoid and Melena in the Newly Born. C. Nauwerck and E. Flinzer.
63 *Absence of Reaction to Old Tuberculin in Persons Free from Tuberculosis. (Wirkung des Alttuberkulins auf den tuberkulosefreien Menschen.) F. Hamburger.
64 Goiter. (Der Kropf und seine Behandlung.) G. Hesse.
65 *Vaginal Cesarean Section in General Practice. (Vaginaler Kaiserschnitt.) Lunckenbein.
66 *Graser's Operation for Large Umbilical and Abdominal Hernias. (Nabel- und Bauchbrüche.) K. Port.
67 Gastric Crises Simulating Stenosis of Pylorus. O. Eschbaum.
68 Trauma and Appendicitis. K. Vogel.
69 Silk Tendon as Substitute for the Peroneus. (Peroneusersatz durch Seidenplastik.) E. Kirsch.
70 Apparatus for Lavage of Bladder. (Blasenwaschung.) O. Kraus.
71 Gargling with Mouth Closed. (Therapie der Ozaena.) H. Schmidt.

June 16, No. 24, pp. 1265-1320.

72 Physiologic Tests of Drugs. (Physiologische Wertbestimmung von [illegible]
73 *Action [illegible] Animal Experimentation. (Wir[illegible] im Tierexperiment.) P. [illegible]
74 *[illegible] Conjunctival Tuberculin Reaction. R. Dietschy.
75 Bang's Method for Titration of Sugar. (Bangsche Methode der Zuckertitration.) P. Dilg.
76 *Pubiotomy and Induction of Premature Delivery in the Home. (Hebeosteotomie und künstliche Frühgeburt im Privathause.) A. Mueller.
77 *Rupture of Rectum. (Berstungsrupturen des Rektums.) L. Burkhardt.
78 *Technic for Roentgen Treatment of Deep-seated Processes. F. Dessauer.
79 Insufflation of Calomel in the Nose in Syphilis. (Zur Syphilistherapie.) A. Eysell.
80 Method of [illegible] Media. (Kupierung der akuten [illegible] H. Obermüller.
81 Epidemic [illegible] (Genickstarreepidemie in der Pfalz. Frühjahr, 1907.) J. M. Huber. Commenced in No. 23.

62. **Paratyphoid and Melena in New-Born Infant.**—The case reported is the first on record in which the specific paratyphoid bacillus was transmitted by the mother to the fetus; the latter at birth presented the signs of severe paratyphoid infection. The lesions were multiple foci of necrosis of the stomach, with inflammation and ulceration, enlargement of the spleen, otitis and cholecystitis and hemorrhagic diathesis. The child lived for 36 hours. The mother's sickness commenced four weeks before its birth. The predominance of the gastrointestinal lesions in this case warns against concluding as to the portal of entry of the germs from their most prominent localization in any given case.

63. **Action of Tuberculin on Children Free from Tuberculosis.**—Hamburger relates that 43 children, injected with from 10 to 100 mg. of "old" tuberculin—after negative response to the cutaneous test—never responded with the slightest general reaction of any kind. One girl of 6 tolerated an injection of 500 mg. without the slightest general reaction. On the other hand, there was always a very slight local reaction, but nothing specific. He adds that it is remarkable that the "old" tuberculin seems to be entirely harmless for persons free from tuberculosis. It is also remarkable that the sensitive-

ness of tuberculous individuals can be increased by injections of tuberculin, while in the non-tuberculous even injections of large amounts do not produce this specific sensitizing effect.

65. **Vaginal Cesarean Section.**—Lunckenbein advocates this operation as so simple and harmless that it can be considered in private practice, especially for not too extreme cases of contracted pelvis. In many cases it is sufficient merely to incise the anterior wall of the uterus without detaching the vault of the vagina or exposing the bladder, a mere anterior hysterotomy with extraction of the fetus by the foot or with forceps.

66. **Operative Treatment of Umbilical Hernia.**—Port has applied Graser's technic in seven cases which he describes in detail, and extols the fine results, especially for very large hernia. After reduction of the hernia the superficial fascia is incised across and mobilized. The rectus muscles are then sutured, followed by transverse suture of the fascia.

73. **Passive Hyperemia in Animal Experiments.**—Frangenheim reports extensive experiments with abscesses induced on rabbits and treated with cupping glasses or application of a constricting band above the lesion. The results all seem to show that the hyperemia thus induced had no bactericidal action, while infectious processes in the bone marrow and joints were unfavorably influenced. Early or immediate application of the measures to induce hyperemia never succeeded in preventing the development of the infectious process after inoculation. The formation of pus was much increased under the constricting band and with the cupping glass, while infiltration in the vicinity of the pus focus was the rule. Suppuration, sequester formation and pigmentation were much more pronounced with the induced hyperemia than without it.

74. **Cytologic Findings in Ocular Tuberculin Reaction.**—Dietschy calls attention to the results of numerous tests which show that microscopic examination of the secretions of the eye during the conjunctival reaction to tuberculin shows a leucocyte formula which varies in the course of the reaction in a specific and typical manner. He thinks that the study of the leucocyte curve may demonstrate a reaction, sometimes, when there is no reaction to be detected by the naked eye. He, therefore, commends the "ophthalmo-cytodiagnosis" as a further improvement of the ordinary ocular reaction.

76. **Pubiotomy in the Home.**—Mueller reports a case which shows that pubiotomy can be done safely in a private house if there is no suspicion of infection and if the preparations can be made properly, with trained assistance and good conditions for after-treatment. As a rule, he advocates premature delivery as the standard operation for contracted pelvis in private practice, if it is possible to wait till the thirty-fifth week of pregnancy. If too late for this, and if the pelvis is not too small, he regards pubiotomy as a justifiable and promising operation even in the home.

77. **Rupture of the Rectum.**—Burkhardt has found fourteen cases on record of rupture of the rectum without direct external injury. In a case he reports the rectum was sound and ruptured during excessive straining at defecation. The patient was a healthy youth of 17. Laparotomy the next morning allowed the escaping fecal masses to be cleaned out, but suture of the ruptured anterior wall of the rectum could not be thoroughly depended on as the region was so difficult of access. For this reason he made an artificial anus in the iliac fossa, and the patient soon recovered. All the other cases on record terminated fatally.

78. **Roentgen Treatment Far Below the Surface.**—Dessauer suggests that it might be possible to act effectually on deep lying processes by exposing them to several tubes at different points. The rays from a tube in front focussed on the process would cross the rays from a tube at the side and another at the rear, the deep process thus feeling the effects of the three tubes, while the surface nowhere is exposed to the rays from more than one tube. Another point he emphasizes is that the longer the interval between the tube and the lesion, the less the proportion of loss of radiant energy by absorption into the superficial tissues. He describes some technical improvements in Roentgen instrumentation on these principles which, he says, allow exposure of deep seated processes as effectually as of superficial lesions.

Therapeutische Monatshefte, Berlin.

June, XXII, No. 6, pp. 275-328.

82 *Diabetic Acidosis and Treatment of Diabetic Coma. J. Baer.
83 Treatment of Chronic Obstipation. O. Simon.
84 The New Edition of the Swiss Pharmacopeia. (Die neue Pharmacopoe Helvetica (Editio quarta), vom medizinisch-praktischen Standpunkt betrachtet.) C. Bachen. Id. P. Fleissig.

82. **Treatment of Diabetic Acidosis.**—Baer reviews the present knowledge in regard to severe diabetes, and remarks that the injury is chiefly from loss of nourishing material, which is eliminated in the acidosis bodies unutilized, and from the excessive production of inoxidable acids. When the production of acids surpasses the amount which the ammonia is able to neutralize, coma is liable. If it is possible to neutralize the acids by administration of alkali, enough to render the urine alkaline, this is logical treatment, although it does not reach the source of the metabolic disturbance. Large doses of sodium bicarbonate for several days have frequently arrested the coma in children, but success is rare in adults. His *experience has shown that in the fatal cases of coma in* adults, notwithstanding enormous dosage of the bicarbonate, the urine never had been rendered alkaline. Injection of sodium glutate in dogs with severe phlorizin diabetes reduced or banished the acidosis, and the application of this measure in the clinic has given good results in a number of cases, although in others it failed. The question of the action of the glutaric acid is identical with the question of its oxidability in the diabetic organism. Baer and Blum are now studying this subject.

Therapie der Gegenwart, Berlin.

May, XLIX, No 5, pp. 193-240.

85 *Two Cases of Megacolon in Children. (Hirschsprungsche Krankheit.) Kohts.
86 *Affections in Which the Pneumatic Cabinet Is Indicated. (Welche Krankheiten sind im pneumatischen Kabinette zu behandeln?) E. Aron.
87 *Symptomatology, Prognosis and Therapy of Acute Veronal Poisoning. (Veronalvergiftungen.) E. Steinitz.

June, No. 6, pp. 241-288.

88 Treatment of Severe, Chron
tions by Compression of th
Lungenkrankheiten durch
89 *Interference with Heart Ac
trächtigung des Herzens durch schlechte Körperhaltung.) M. Herz.
90 *Origin and Treatment of Asthma. A. Moeller.
91 *Dietetic Treatment of Gastric Ulcer. (Behandlung des Ulcus ventriculi mittels rationeller Küche.) W. Sternberg.
92 Influence of Phosphorus-Cod-Liver Oil on Metabolism of Lime. (Phosphorlebertran in der Therapie der Rhachitis, Sein Einfluss auf den Kalkstoffwechsel.) J. A. Schabad.
93 *The Continuous Bath in Surgery. (Das permanente Bad in der Chirurgie.) R. Mühsam.
94 Case of Gout of Testicle and Prostate. (Zur Kasuistik gichtischer Affektionen von Hoden und Prostata.) Becker.
95 Preventive Treatment of Gonorrhea in Women. H. Loeb
96 Inflatable Pessary for Hemorrhoids and Prolapse. (Pneumopessar.) E. Schlesinger.

85. **Megacolon.**—Kohts describes two cases in boys of 3 and 6, respectively, both fatal, although great benefit followed measures to combat the coprostasis. The prognosis depends on how soon treatment is commenced. Regular evacuation of the bowels is the main point in treatment, and glycerin and oil enemas are the main reliance. Bossowski resected 50 cm. of the sigmoid flexure and the child has been well since. Biedert has stated that recovery is known in only 2 out of the 41 cases on record; 23 died while under observation, and the outcome in 11 cases is not known.

86. **Affections in Which the Pneumatic Cabinet Is Indicated.**—Aron cites in his list chronic bronchial catarrh, the relics of pleurisy, and chronic infiltration and atelectasis after caseous pneumonia. Febrile processes always contraindicate the use of compressed air. In chronic asthma and emphysema the pneumatic cabinet is not to be recommended, but it may aid in increasing vital capacity in persons of the phthisic habitus. A therapeutic influence is also not to be denied in some cases of anemia and chlorosis. The pneumatic cabinet should be merely an adjuvant to other measures; the best results are obtained in combination with a change of climate.

87. **Veronal Poisoning.**—Steinitz reports a case of chronic intoxication plus idiosyncrasy, the symptoms being both nervous and an exanthema and oliguria. In three others the typical intoxication was manifested by profound unconsciousness with relatively good respiration and heart action, complete extinction of the corneal reflex, with retained reaction to light of the pupils, and relaxation of the limbs with retained tendon reflexes. The symptom-complex resembles hysteric unconsciousness. The somnolence may range from apparently natural sleep to deep coma. Especially remarkable is the absence of the corneal reflex with retained pupil reflex. The absence of contractions and the lack of a history of hysteric attacks in the past help to differentiate the condition. Chemical tests of the urine will confirm the diagnosis. In the 13 cases of veronal poisoning on record, 4 of the patients died, the amounts ingested ranging from 11 to 20 gm.; the others, who had received from 2.5 to 9 gm., all recovered. The principal danger is past after 48 hours, although in the severe cases there is danger from consecutive pneumonia. The patients in the mild cases recover without treatment. Otherwise, elimination of the poison should be promoted in every way. If the patient is seen within a few hours the stomach should be rinsed out. Still more important is the evacuation of the bowels, preferably by castor oil by the mouth and by enemas. Diuresis should be promoted, and the patient should be fed through a tube as long as swallowing is difficult. Saline infusion subcutaneously or by the rectum may be needed. If the respiration is not satisfactory, tepid baths with cold douching are advisable, especially to ward off the threatening aspiration pneumonia. Camphor and caffein will probably be superfluous but may be given as a precautionary measure. The agitation liable to develop during convalescence can be controlled by morphin, which has been called the antagonist of veronal, and can usually be given in adequate doses without apprehension.

89. **Interference with Heart Action by Stooping.**—Herz remarks that writers generally confine their study of this subject to the general circulation, rather than to the effect on the heart itself. He here describes a case in which a man of 47 presented symptoms of arteriosclerosis and myocarditis, but the trouble proved to be merely the result of long continued stooping over a desk. When the patient was trained to hold himself upright and the muscles were strengthened the pseudo heart affections vanished permanently.

90. **Treatment of Asthma.**—Moeller explains asthma as the result of irritation of the respiratory center from certain circumscribed swollen spots in the upper air passages. These spots are the source of irritation of this center. Treatment of asthma, therefore, should include tranquillization of the respiration center by suggestion, and the asthmogenic points must be sought in the nose and throat, and by cauterization made less sensitive to irritation. If they are in the bronchi this can be accomplished by inhalation of compressed air. In case cauterization is refused, potassium iodid may be tried with some sedative as indicated.

91. **Improved Dietetic Treatment of Gastric Ulcer.**—Sternberg believes that mechanical conditions, rather than chemical, are of the greatest importance in treatment of ulcer of the stomach. He gives 13 illustrations of various improved kitchen utensils which allow the food to be ground and strained while yet retaining a consistency that favors mastication. He would banish the spoon for stirring and use only the pestle. For hospitals he recommends a marble mortar worked by power or by hand for grinding the food, raw or cooked, passing it then through a hair sieve, working it through the sieve with a broad masher, not a spoon. Still more effectual is the passing of the food through a cloth. Two men hold the ends of the large cloth and force the substance through it with two heavy wooden ladles with great force. The substance then is smooth as velvet and melts in the mouth—this renders the food exceptionally digestible in the stomach. This is the way the famous French dishes "crême de gibier" and "crême de volaille" are made. The demands on the physiologic functions of the stomach are reduced to the minimum. By this preparation of the food it is practically predigested, but not in the generally accepted sense of chemical predigestion, but in the physical direction. This physicomechanical predigestion is much more important than the chemico-physiologic, at least for the upper part of the intestinal tract and most certainly for the stomach. He is confident that the introduction of high art cooking in this line would represent a great advance in the treatment of gastric ulcer.

93. **The Continuous Bath in Surgery.**—Mühsam lauds the favorable action of partial or total baths in treatment of fistulous wounds, especially after appendicectomy, and in hernia suspicious of gangrene, erysipelas with much suppuration and necrosis, especially of the testicles, and necrosis from decubitus, open tuberculosis of the joints, compound fractures and burns. He relates a number of examples in each group, warning only that the patients must be protected from drafts, and the treatment kept up until granulations develop to avoid danger of erysipelas. The continuous bath can be applied in private houses as well as in hospitals.

Virchows Archiv, Berlin.

May 7, CXCII, No. 2, pp. 193-384.

97 Pathogenesis of Traction Diverticulum of the Esophagus. G. Riebold. Concluded.

98 Etiology of Amyloid Degeneration. C. Davidsohn.

99 Neoformation of Bone at a Distance from the Periosteum. (Parostale Knochenneubildung.) H. Takata.

100 Pneumonia Plus Yellow Atrophy of Liver in Girl of 10. (Eigentümlich Form totaler produktiver interstitieller Pneumonie neben subakuter Leberatrophie im Kindesalter.) F. Klopstock.

101 Two Cases of Cirrhosis of Liver in Children. (Leberzirrhose im Kindesalter.) W. Vix.

102 Experimental Tuberculosis of the Kidney with Induced Venous Hyperemia. (Tuberkulose und Blutströmung.) J. Meinertz.

103 Origin of Thrombosis in Portal Vein. (Entstehung der Pfortader-Thrombose.) L. Lissauer.

104 Nodose Periarteritis as Consequence of Staphylococcus Sepsis After Angina. H. v. Bomhard.

105 The Kidneys in Pernicious Anemia. L. Paszkiewicz.

106 Histologic Findings in Suprarenals in Arteriosclerosis. (Nebennieren bei Arteriosklerose, sowie Befund in Nebennieren und Aorta von Kaninchen bei intravenösen Adrenalininjektionen.) J. Hornowski and W. Nowicki.

107 Croftan's Method for Differentiating Suprarenal Tissue by Biochemical Tests. E. Koerber.

108 Monster with Rudiments of Heart and Head. (Holoacardius acephalus.) R. Meyer.

Wiener klinische Wochenschrift.

June 4, XXI, No. 23, pp. 823-860.

109 Experimental Postponement of Delivery in Rabbits. (Experimentell erzeugte Verlängerung der Tragdauer bei Kaninchen.) A. Kreidl and L. Mandl.

110 Diverticula in Trachea. (Zur Kenntnis der aus den Schleimdrüsen der Trachea hervorgehenden, divertikelartigen Bildungen.) R. Maresch.

111 Etiology of Molluscum contagiosum. W. Pick.

112 Biochemical Reactions as Clinical Tests. (Anwendung der biochemischen Reaktionen für klinische Zwecke.) Wiczkowski, M. Selzer and G. G. Wilenko.

113 Precipitin Reaction for Serum Diagnosis of Syphilis. (Methodik und Verwendbarkeit der Ausflockungsreaktion für die Serodiagnose der Syphilis.) H. Elias, E. Neubauer, O. Porges and H. Salomon.

114 Technic of Amputation of Penis. O. Föderl.

115 *Efficacy of Intravenous Adrenalin-Saline Infusion. (Wert der intravenösen Adrenalin-Kochsalzinfusionen.) T. Meissl.

116 Atoxyl in Malaria. (Atoxylversuche bei Malariakranken.) R. Gonder and F. Dapas.

117 Lipoids in Pyocyanase. (Sind die bakteriziden Bestandteile der Pyozyanase Lipoide?) R. Emmerich and O. Löw. Id. H. Raubitschek and V. K. Russ. Id. K. Landsteiner.

June 11, No. 24, pp. 861-892.

118 Temporary Suspension of Tuberculous Allergy During Measles. (Verlauf der tuberkulösen Allergie bei einem Falle von Masern und Miliartuberkulose.) C. v. Pirquet.

119 *Diarrhea in Exophthalmic Goiter. (Durchfälle bei Morbus Basedow.) H. Salomon and M. Almagia.

120 Indications for Operations on Nasal Septum. (Indikationsstellung der Nasenscheidewandoperationen.) L. Rethi.

121 *Trigeminal Neuralgia from Changes in Teeth. (Trigeminusneuralgien hervorgerufen durch Veränderungen an den Zähnen.) W. Wallisch.

122 Connection Between Cutaneous Tuberculin Test and Presence of Antibodies. (Beziehung der Pirquetreaktion zum Gehalt an Antikörpern. Perlsucht-Pirquet.) W. Czastka.

115. **Intravenous Adrenalin-Saline Infusion.**—Meissl has applied this measure in two cases of severe collapse after puerperal hemorrhage. The results were excellent, tiding the patient past the danger point in acute anemia. The effect is transient, but the infusion can be repeated, thus stimulating the heart action and the vasomotor center until the organism

can bring up its reserves. The prospects are naturally better in acute anemia than in infectious diseases, but even in the latter, intravenous adrenalin-saline infusion is liable to prove a life-saving measure. He repeated the infusion two or three times in his cases. The patients were young women who had recently aborted; one was a septic case.

119. **Diarrhea in Exophthalmic Goiter.**—Salomon reports two cases of fat diarrhea in the course of exophthalmic goiter. In one it was referable to concrements obstructing the smaller passages in the pancreas. In the other case it was evidently the result of disturbance in the absorbing faculty of the intestine. The conditions in the stools in regard to the fat were similar to those in isolated disturbances of the absorption of fat in neurasthenics.

121. ***Trigeminal Neuralgia from Changes in Teeth.***—Wallisch regards neuralgia in younger persons, when the pain is restricted to one branch of the second or third branch of the trigeminus nerve, as suspicious of a dental origin. The pains are more diffuse than in ordinary neuralgia; they do not seem to follow the track of the nerve, and they vary in intensity without ever disappearing completely. He relates a number of instances in which a tooth was responsible for severe neuralgia, although the dentist could discover nothing wrong in the teeth. Teeth with a filling in the root are peculiarly suspicious, even when they are apparently entirely free from all reactions; he does not exclude them until removal of the filling and leaving the cavity open for a time—inserting a little cotton during eating—fail to give relief. In one severe case the pain was in the temple and vertex. The more the neuralgia is restricted to the smaller ramifications, the more one is justified in assuming a peripheral cause, possibly an unsuspected non-irrupted tooth. Inflammation in the maxillary antrum is often a source of facial neurálgia as also rheumatic, hysteric and similar disturbances. The neuralgia is often referred to the ear.

Zentralblatt für Chirurgie, Leipsic.

June 13, XXXV, No. 24, pp. 729-752.

123 Improved First-Aid Package for the Field (Verbesserung des Verbandpäckchens für den Feldsoldaten.) Deeleman.

Zentralblatt für Gynäkologie, Leipsic.

June 6, XXXII, No. 23, pp. 761-784.

124 *Puerperal Pyemia Cured by Ligation of Pelvic Veins (Fall von puerperaler-Pyämie geheilt durch Unterbindung der Beckenvenen.) G. Friedemann.
125 *Etiology of Retroflexion of Puerperal Uterus. R. Ziegenspeck.
126 Indications for Pubiotomy. H. Peham.

June 13, No. 24, pp. 785-816.

127 *Scopolamin-Morphin Anesthesia in Gynecology. H. Sieber
128 High Forceps for High Transverse Facial Presentation. (Zum hohen Querstand der Gesichtslage.) R. Ziegenspeck.
129 Protection of Perineum. (Dammschutz.) Nacke.

124. ***Puerperal Pyemia Cured by Ligation of Pelvic Veins.***—This is the second case reported by Friedmann. The patient was a ii-para of 27 with pyemia after abortion. The ligature was applied in the midst of the thrombosed region: it was impossible to apply it higher. The operation lasted two hours, although merely the hypogastric vein was isolated and ligated. The case teaches that the operation may accomplish its purpose, even under unfavorable conditions. There seems to be an aseptic thrombosis preceding the spread of the septic process in the vessels: this would have become infected if it had not been for the ligature, unless the newly formed thrombus had become organized in time before infection had reached it. This might possibly have allowed spontaneous recovery.

125. **Etiology of Retroflexion of Puerperal Uterus.**—Ziegenspeck calls attention to the unsuspected frequency of retroflexion in young women and girls and of retroflexion due to inflammation and adhesions in the vicinity, and also to the frequency of cases in which the retroflexion is the result of too long lying on the back or of overfilling of the bladder or of both combined. All these causes may cooperate in the first childbirth. He thinks it wise to have the parturient woman lie on her side. In regard to getting up early he knows of two recent fatalities in a country district the result of getting up at once after delivery. In the clinic the overfilling of the bladder and incipient parametritis are discovered and remedied at once, but this is not the case in private practice. He has made it a rule to examine every puerpera in from eight to twelve weeks after delivery, and has thus been able to detect many displacements and cases of retroflexion, and by prompt treatment to restore conditions to normal. This would have been impossible a few weeks later on account of the stronger adhesions. He insists on the examination, even when the patients are entirely free from symptoms or inconveniences of any kind. The first childbirth requires special attention in this respect, and he agrees with Olshausen that every primipara should be examined at the fourth week and again later to detect any tendency to retroflexion. He finds massage useful in treatment.

127. **Scopolamin-Morphin Anesthesia in Gynecology.**—Sieber states that at the Marburg gynecologic clinic scopolamin and morphin were used in 88 cases for general anesthesia or as a preparation for it. It was noticed that in 32 cases the pulse was increased from 20 to 50 beats a minute, and this acceleration lasted into the second or third day. If all the cases were included in which the pulse was increased by 10 or 20 beats, it would make a proportion of 65.6 per cent. in which this anomaly was observed. He ascribes this protracted effect on the pulse to injury of the heart by the scopolamin. He has since abandoned this technic; for one reason because the high pulse and frequent elevation of temperature render it impossible to differentiate the action of the scopolamin from a beginning infection. He advocates subcutaneous injection of 0.01 gm. (0.15 grains) morphin twenty minutes before spinal anesthesia as the preferable technic. He thinks that two poisons are enough at a time instead of the four sometimes used with scopolamin technic, exclaiming: "Away with this unreliable, generally useless, dangerous poison for general anesthesia."

Gazzetta degli Ospedali e delle Cliniche, Milan.

May 24, XXIX, No. 62, pp. 649-664.

130 Pulse in Peritonitis and Ileus. (Polso nella peritonite acuta e nell' occlusione intestinale.) A. Rossi and D. Maragliano
131 Radioactivity of Mineral Waters. (Fonte Bracca.) U. Prati.
132 Tricuspid Incompetency and Compensation. G. Binetti.
133 *Intoxication from Quinin. (Prove e deduzioni pratiche sulla intossicazione chinica del Tomaselli.) G.-C. Matarazzo.
134 *Exophthalmic Goiter. (Gozzo esoftalmico.) A. Cantieri.

May 31, No. 65, pp. 681-696.

135 Disturbances in Portal Circulation from Mere Congestion of Bile. G. Ghedini.
136 *Oatmeal in Treatment of Diabetes. (L'avena nella cura del diabete mellito.) G. A. Pari.
137 *Pathogenesis of Gout. (Gotta.) T. Silvestri.

June 7, No. 68, pp. 713-728.

138 Immunizing Properties of Diplococcus Cultivated on Organ Extracts. (Proprieta immunizzanti del diplococco coltivato su estratto organico.) A. Barlocco.
139 Diagnosis and Prophylaxis of Lead Poisoning. (Saturnismo.) G. Massini.
140 Negative Results of Stretching the Nerve for Perforating Ulcer of the Foot. (Stiramento dei nervi plantari come preteso metodo di cura dell'ulcera perforante del piede.) G. Alessandro.

133. **Intoxication from Quinin.**—Matarazzo has found that persons who react to quinin with serious hemoglobinuria and other alarming symptoms are able to tolerate effectual doses of quinin if it is administered by the hypodermic route, as he shows by six examples from his own experience and some from others'. He has observed cases of serious quinin intoxication in persons free from malaria. In one instance the entire train of symptoms of threatening quinin intoxication occurred spontaneously in an attack of malaria; no quinin had been taken for a month. In severe quinin intoxication he gives tonics for the heart and kidneys, rejecting ergot, believing that it "tetanizes" the kidney functioning.

134. **Exophthalmic Goiter.**—Cantieri reports a severe case in which a cure followed repose, tonics, electricity and the use of the milk of thyroidectomized goats. He operated on the animals himself, not trusting to commercial preparations as no benefit seemed to be derived from their use in this case. The patient was a woman of 30, unmarried.

136. **Oatmeal in Diabetes.**—Pari reports a case of diabetes with the metabolic findings while oatmeal was being taken according to von Noorden's technic. They show the advantages of the oatmeal. The patient was a young man. It

seems evident that the starch of the oatmeal has some specific physiologic action different from other starches.

137. **Pathogenesis of Gout.**—Silvestri presents arguments to prove that gout is the result of perverted functioning of the lymph-producing apparatus. The consequence is disturbance in the metabolism, especially in that of nuclein. He explains the acute attack as an accident intercurrent in the slow, chronic development of tophi. It is distinguished from acute articular rheumatism by its special site and by the more intense participation of the soft parts in the inflammatory process. The prodrome, the general symptoms and nitrogen metabolism show that there is toxigenic destruction of albumin, as in any acute infectious disease. The presence of uric acid gives the inflammation its specific character. The big toe has the most weight to bear and it is farther from the heart than any other joint, which favors the deposit of urates, while it is particularly exposed to trauma and constant pressure. The urates are deposited where the circulation is most sluggish, and thus prepare the soil for the joint lesion, so that gout affects predominantly the smaller, remote joints while acute articular rheumatism settles in the larger joints. He regards the perverted functioning of the lymph-producing organs as a congenital anomaly. The acute attack of gout is not a necessary effect, but an episode favored by the uric acid diathesis.

Policlinico, Rome.

June 7, XV, Practical Section, No. 23, pp. 709-740.

141 Anastomosis and Transplantation of Vessels. (Anastomosi e trapianti dei vasi sanguigni.) V. Nicoletti and A. Curcio.

June 14, No. 24, pp. 741-772.

142 Picric Acid in Trachoma. M. Scellingo.

June, Surgical Section, No. 6, pp. 241-288.

143 Case of Isolated Comminuted Fracture of Atlas. V. Quercioli.

144 Primary Sarcoma of Liver. (Sarcomi primitivi del fegato.) G. Bertelli.

Hospitalstidende, Copenhagen.

May 6, LI, No. 19, pp. 521-552.

145 Case of Secondary Abdominal Pregnancy with Living Child at Term. (Sekundært Abdominalsvangerskab med levende, fuldbaarent Barn.) S. Horneman.

146 Head Holder for Autopsy Work. (Apparat til at fixere Hovedet med ved Sektioner.) O. Horn.

Nordiskt Medicinskt Arkiv, Stockholm.

April 30, XL, Internal Medicine, No. 4.

147 *Syphilis of the Lung in Adults. (Lungensyphilis bei Erwachsenen.) G. Hedren.

148 *Diagnosis of Uterine Cancer and of Late Syphilis of the Uterus. (Diagnose du cancer utérin et de la syphilis tardive de l'utérus.) F. Howitz.

147. **Syphilis of the Lung.**—Hedren describes the autopsy findings in a case of syphilis with multiple gummata on the skin, fibrous endocarditis and interstitial pneumonia of the right lung, the latter evidently a syphilitic process as there were no signs of tuberculosis or other explanation for the unilateral lesion.

148. **Syphilis of the Uterus.**—Howitz comments on the serious consequences that might be entailed by mistaking a gumma of the cervix for cancer. In a recent case a woman of 32, with three children, the youngest 4 years old, had a small tumor on the cervix which was excised and declared to be an epithelioma. Less than three years later she returned with an apparent recurrence of the tumor but on the opposite side of the anterior lip of the external os. This tumor was also excised and again the microscope confirmed the assumption of epithelioma, although the shape and consistency suggested rather a fibroma. The fact that the recurrence had developed at another point was suspicious, and Howitz then discovered that the patient had acquired syphilis at 17. She had been thoroughly treated and had been in perfect health since. The most minute examination failed to reveal any signs of it except, possibly, the uterine affection. A course of potassium iodid was instituted and the woman has since passed through a normal pregnancy. No spirochetes could be found in the placenta or any signs of syphilis. He mentions parenthetically Bergh's statement that during the thirty-eight years in which he was in charge of the hospital for prostitutes he encountered only one case of cancer of the uterus among them. Howitz suggests that this seems to indicate that thorough and repeated specific treatment of the syphilis—such as these prostitutes received, nearly all having contracted syphilis early in their careers—may have a prophylactic action against the development of cancer later. In the case described, Howitz decided to regard the uterine tumors as a tertiary manifestation of syphilis and has had no cause to regret his action during the three years since. The mother and children are in the best of health and the woman was saved a severe mutilating operation. The tumors were hard, resistant, circumscribed and indolent.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Practical Medicine Series (Vol. V). Obstetrics. Edited by Joseph B. DeLee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School. Cloth. Pp. 228. Price, $1.25. Chicago: Year Book Publishers, 1908.

Contributions to the Science of Medicine and Surgery. By the Faculty in Celebration of the Twenty-fifth Anniversary of the Founding of the New York Postgraduate Medical School and Hospital. Paper. Pp. 485.

Fifty-first Annual Report of the Wilmington Institute, Wilmington, Del., Including the Fourteenth Annual Report of the Wilmington Institute Free Library. Paper. Pp. 36. Wilmington: Charles L. Story.

New Hospitals Needed in Greater New York. Recommendations by the Standing Committee on Hospitals of the State Charities Aid Associations. By Mr. Phil P. Jacobs. Paper. Pp. 83.

Twenty-second Annual Report of the Ohio Dairy and Food Commissioner for the Fiscal Year Ending Nov. 15, 1907. Paper. Pp. 72. Columbus: F. J. Heer.

Ambulance Service in Greater New York. A Report on Present Conditions. By Mr. Phil P. Jacobs. Paper. Pp. 36.

Sixth, Seventh and Eighth Annual Reports of the Hahnemann Hospital, Scranton, Pa. Paper. Pp. 77.

Transactions of the Florida Medical Association for the Year 1908. Paper. Pp. 304.

NEW PATENTS.

Recent patents of interest to physicians:

889171. Formic-aldehyde preparation and making same. H. S. Blackmore, Mount Vernon, N. Y.
888869. Inhaler. F. I. Clark, Baltimore.
888477. Urinary apparatus. V. D'Incognito, Chicago.
888996. Vibrator. M. K. Golden, Chicago.
888490. Flexible corrective brace and brace-frame. G. W. Haas, Los Angeles, Cal.
889022. Syringe. J. Kinsel, Philadelphia.
889154. Medical appliance. S. Rolfson-Schmidt, Fairground, N. Y.
889156. Physician's case. P. Ruehlmann, Philadelphia.
888758. Making medicinal composition. J. C. Slack, Clayton, N. Mex.
889424. Spraying nozzle. S. H. Adams, Fulford, near York, Eng.
889203. Medicine dropper. J. A. Clifton, Orangeburg, S. C.
889662. Surgical instrument. C. N. Coulter, Traverse City, Mich.
889361. Suture and ligature container. H. A. Flanders, Boston.
889541. Crutch. G. B. McConnell, Houston, Pa.
889542. Electromedical battery. E. T. Otto, Jersey City, N. J.
889810. Medicating and massaging appliance. H. Robinson, Waco, Texas.
889827. Elastic woven bandage. W. J. Teufel, Stuttgart, Germany.
889738. Medicine measure. A. R. Weber, Hammond, Ind.
890484. Apparatus for administering oxygen or the like. G. von Ach, Newark, N. J.
890018. Dose stopper. A. W. Burt, Roselle Park, N. J.
890407. Invalid bed. G. B. Colles, Harriman, Tenn.
890029. Massage instrument. W. H. De Camp, Fort Wayne, Ind.
890068. Fracture apparatus for stretching parts of the human body. M. Koehler, Hohenlohehutte, Germany.
890289. Oxygen-cutting apparatus. H. P. Merriam, New York.
889964. Therapeutic apparatus. T. Powell, Los Angeles, Cal.
890452. Truss. J. Q. A. Remine, Greenville, Tenn.
890580. Ophthalmometer. J. H. Sutcliffe, London, Eng.
890842. Clavicular apparatus. R. H. Cheatham, Denver.
890975. Breast pump. J. S. Gilbert, Portland, Ore.
890650. Combined wardrobe and disinfecting cabinet. A. S. Hitchcock, Franklin, Pa.
891176. Metabolizer. J. von der Kammer, Washington, D. C.
890912. Soda fountain. C. F. Kurz, Cleveland, Ohio.
890990. Syringe. A. E. Macdonald, San Francisco.
891181. Inflatable bandage. P. Mitchell, Rock Island, Ill.
890681. Bed-pan. M. Moore, Marble Rock, Iowa.
890709. Liquid-actuated vibrator. C. H. Richwood, Boston.
890883. Burner nipple pricker and cleanser. S. Spiller, Rockhamton, Queensland, Australia.
890885. Device for turning nursing-nipples. E. L. Stuart, and S. A. Conine, New Hamburg, N. Y.
890822. Therapeutic vibratory apparatus. J. M. Tourtel and G. L. Hogan, London, Eng.
39362. Design, poison bottle. W. V. Johnston, Thermopolis, Wyo.

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Original Articles

AN ANALYSIS OF FOUR HUNDRED CASES OF EPIDEMIC MENINGITIS TREATED WITH THE ANTIMENINGITIS SERUM.*

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NEW YORK.

We have already reported concerning the effects of the employment of an antimeningitis serum, prepared in the horse by inoculation of *Diplococcus intracellularis* and its products, on the course and termination of a small number of cases of epidemic meningitis.[1] The results first presented were, on the whole, so satisfactory that we believed the employment of the serum on a wider scale not only justified but clearly called for, and we are now in position to present a second series of figures which are based on an analysis of about four hundred cases of epidemic meningitis in which the serum has been used.

The cases of meningitis on which this analysis rests have arisen in different and widely separated parts of the United States and Canada and in Great Britain. They have occurred sometimes as small epidemics, as in Castalia and Akron, Ohio, in Porterville, California, and possibly in other places in the United States, and in Belfast, Ireland, and Edinburgh, Scotland; and sometimes as sporadic outbreaks of considerable extent, as in Cleveland, Boston, Baltimore, Cincinnati and Philadelphia. Moreover, it is now evident that so-called epidemic meningitis is widely prevalent throughout the United States, and it would appear to be questionable whether or not any parts are really free from the disease. In view of the fact that we have demanded that the bacteriologic diagnosis be made in every case of meningitis for which we have supplied the serum, and which we have accepted for analysis, and that in doubtful instances we have ourselves examined slides and sometimes cultures prepared from the spinal exudates, we can speak with positiveness on this important subject.

It is an important matter, and one to be carefully pondered, whether the wide distribution of sporadic epidemic meningitis in the United States is the outcome and residue of the epidemic that raged in New York and vicinity from 1905 to 1907, or whether the disease tends to exist and has long existed in a sporadic state in this country, from which the severe epidemic outbreaks have occasionally taken their origin. There is some reason to suppose that the diagnosis of sporadically occurring cases of the disease may fail to be made unless attention is specially directed to the unusual symptoms by the simultaneous occurrence of several such cases, or by a wider publicity which the disease sometimes attains as through the existence of obvious epidemic foci, or, as in the present instance, by the interest excited by the publications relating to the antimeningitis serum.

The analysis which is to be presented is based on histories of cases of epidemic meningitis in which the diagnosis has been established by bacteriologic examinations as well as by the usual clinical tests. The histories have been supplied by physicians in hospitals and in private practice, who have employed the serum. It will not be possible in this place to acknowledge duly and by name the physicians who so generously gave their time to the study of the effects of the serum. But we hope soon to publish a full report of this investigation, when the awarding of due credit will be attempted.[2]

In making up the figures on which the tabulations are based, account has been taken of the age of each patient, the period of the disease at which the serum was first injected, the number of injections of the serum made, the dosage of the serum, the effects on the temperature and the subjective and objective symptoms of the disease, on the number and viability of the diplococcus in the spinal exudate, the general leucocytosis, the duration of the fever and other symptoms, the manner of recovery—that is, whether by slow improvement or lysis or by abrupt termination of the symptoms or crisis—and some other details of the disease. Not all the points that have been developed can be brought out in this shorter article. But we wish to state that in one way only has any selection of cases been made, namely, that all cases which survived the first dose of serum less than twenty-four hours have been excluded from the tabulations. We consider that it may be accepted as probable that any marked benefit which the serum may be assumed to exert could hardly be effectively exhibited before the first twenty-four-hour period following its administration had elapsed. It has chanced that of the histories here analyzed the eliminations include chiefly patients who were moribund at the time of their admission to hospitals and the first serum injections and who survived only a few hours—from one hour to five or six hours—and, in addition, a certain, although small number of rapidly fatal fulminating cases.

RESULT ACCORDING TO THE AGES OF THE PATIENTS.

The total number of cases subjected to tabulation is 393.[3] The total number of recoveries among these cases was 295 and the total number of deaths 98. Hence there were 75 per cent. of recoveries and 25 per cent. of deaths. Tabulated according to the ages of the patients the following is the result obtained:

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* From the Rockefeller Institute for Medical Research

[1] Jour. Exper. Med., 1908, No. 1. Independent publications have been made by Robb, Brit. Med. Jour., Feb. 15, 1908; by Dunn, Boston Med. and Surg. Jour., March 19, 1908; and by Chase and Hunt, Arch. Int. Med., April, 1908.

[2] Jour. Exper. Med., 1908, No. 5.

[3] Representing the number after the moribund and fulminant cases have been subtracted.

Patients.	Total number.	Re-covered.	Died.	Percent. of death.
Under 1 year	22	11	11	50
Between 1 and 2 years.	19	11	8	42.1
Between 2 and 5 years.	68	52	16	23.5
Between 5 and 10 years	79	70	9	11.4
Between 10 and 20 years.	105	80	25	23.8
Over 20 years	87	64	23	26.4
Age not given.........	13	7	6	46.1

The youngest child which recovered was 1 month old. The latest case of the disease, in a child under 1 year of age, which was treated was in its fourth month when the injections were begun: the child died. The highest mortality was among patients over 20 years of age, which we think can be explained in part by the fact that a large number were treated by scattered physicians who had no experience with the serum. If this is not the reason, and adults past 20 are less subject to the action of the serum than younger persons, the fact will of course come out finally; but with one exception — Cincinnati — wherever a series of patients of these ages has been treated by one observer the percentage of recoveries to deaths has been high — Johns Hopkins Hospital (Baltimore), Cleveland, Belfast (Ireland).

RESULTS ACCORDING TO THE PERIOD OF INJECTION.

We have also analyzed the histories according to the earliest period of the disease at which the injection of the serum was begun. Not all the histories are perfectly definite on this point, and hence we have used in *the analysis only those that are definite.* In not a few cases the onset of the disease was insidious and the prodromata appear to have been indefinite and more or less overlooked. At other times, and this seems to have been the more frequent experience, the onset was abrupt so that no special doubt surrounded the beginning of the disease. Under the circumstances, therefore, the danger is that the period elapsing between the onset of the symptoms of the disease, their recognition and the first serum injection will be calculated too short rather than too long. It is very rare, except in the fulminant cases, that one can assure himself that he is dealing with the disease on the first day of its existence.

The histories of 328 cases were sufficiently explicit to enable us to approximate the periods in which the first serum injection was made. We have arbitrarily chosen the three periods that follow in which to group the cases:

Period of injection of serum.	Number of patients.	Re-covered.	Died.	Percent. of deaths.
First to third day....	121	103	18	14.9
Fourth to seventh day.	100	78	22	22
Later than seventh day.	107	68	39	36.4

In spite of the uncertainties surrounding the period of onset of the symptoms which affect the accuracy of the calculation of the period, the beneficial influence of early injection is rendered sufficiently obvious by the table. The period embraced in the last group is, of course, highly irregular, since not a few patients came under treatment when they were in a semi-chronic or chronic state after many weeks of illness. On the whole, therefore, the outlook even for the latter class of cases is not wholly discouraging, and, indeed, we are of the opinion that so long as the diplococcus is still present in the meningeal exudate and the mechanical damage to the anatomic structure is not irreparable, the employment of the serum holds out hope of considerable benefit.

MANNER OF TERMINATION OF THE SYMPTOMS.

The histories have been sufficiently explicit in 270 instances to enable us to determine the manner in which the disease terminated, that is, whether by lysis or crisis. We do not think that our decisions on this point have been uniformly correct and the figures are given, therefore, merely as an approximation of what may be found later to be the true data. Of the 270 cases described in the histories, 201 terminated by lysis and 69 by crisis. Hence we have assumed that from 25 to 30 per cent. of the cases treated with the serum terminated abruptly in the manner to which we previously applied the term "crisis."

Closely connected with the question of the manner of termination of the symptoms is the question of the duration of the active symptoms of the disease in serum-treated as compared with non-serum-treated cases. Without entering into a discussion of this point we wish to state that we have analyzed 220 histories of recovered patients with reference to the duration of the active symptoms and found the period to be about eleven days.

INFLUENCE ON DIPLOCOCCI, SPINAL EXUDATE AND LEUCOCYTOSIS.

In our first publication on the serum treatment of epidemic meningitis we drew attention to a fact which impressed us as remarkable and significant, namely, that soon after the serum injections were begun the diplococci tended to be greatly reduced in numbers, to disappear from the fluid part of the exudate, to become wholly intracellular (unless they were now entirely absent), to present certain changes in appearance, as swelling and fragmentation, and to stain diffusely and indistinctly, and coincidentally to lose viability in cultures. The later and far wider experience has tended to confirm the views we first expressed based on the effects observed; and, while exceptions occur in which the diplococci disappear or become engulfed and change in morphology or lose viability more slowly, yet the general fact seems securely established. There seems little doubt that part of the beneficial effect of the serum injections must arise from the restriction of multiplication and from the greater phagocytosis of the diplococci.

Attention was previously directed to the rapidity with which the exudate in the meninges loses turbidity under the influence of the serum injections. This fact has been noted again and again in the subsequent cases in which the treatment was carried out. Indeed, it would now appear as if the fear we expressed that the cases with strictly purulent exudates might be less amenable to the action of the serum was premature. A fair number of patients in whom the notes state the spinal exudate to have been purulent have recovered, and the rapid clearing of the exudate was observed even in them. Whether there is complete anatomic restitution of the meninges in these cases can only be determined by postmortem examinations, but that complete functional restoration can take place may be regarded as certain.

Closely connected with the rapidity with which the cerebrospinal exudate loses pus cells and returns to a limpid condition is the state of the general leucocytes of the blood. If the inflammatory emigration into the meninges is arrested, then the number of circulating leucocytes should tend rapidly to return to the normal.

The facts at hand, based on many counts of the circulating leucocytes before the injections of serum were begun, and afterward at regular intervals, show, as was to be expected, a fall, often very rapid and even critical, in the number of leucocytes in the general blood stream with which the disappearance of the diplococci and the clearing of the spinal exudate are correlated.

The obverse of the phenomena here mentioned is encountered in those cases not responding to the serum, or responding imperfectly, in which death is the result. Although the data bearing on this topic at our command are less numerous and perfect than the other, yet the general statement can be made that the diplococci, the spinal exudate and the circulating leucocytes are less influenced in the resistant cases, and that progressive increase in turbidity of the exudate and rise in leucocytosis, and greater persistence of the diplococci with retention of viability after several injections of the serum, are unfavorable indications.

The data at hand bearing on the meningeal phenomena that precede and attend the relapses so far as diplococci, exudate and leucocytosis go are also imperfect. Here, again, the general statement can be made that the relapse is attended or ushered in by increased exudation of leucocytes into the meninges, higher systemic leucocytosis, and reappearance of or increase in the numbers of diplococci, although the diplococci may not regain power to grow outside the body in cultures. Relapses in the course of the treatment are not very frequent and rarely has the case terminated fatally during relapse when the treatment with the serum has been resumed without delay and vigorously pushed.

There remains one more topic to be mentioned. The indications given by the first series of serum-treated cases were to the effect that in the great majority of instances recovery from the disease would be complete. The facts brought out by the far larger series of cases on which this article is based confirm the earlier view which we expressed. The number of complications which arose in them was small, and the only persistent defect noted was deafness. This lamentable condition occurred in a few instances only, and it was more often than not noted early in the disease before the serum injections were begun.

INJURIES OF CRANIAL NERVES FROM FRACTURES OF THE SKULL.*

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BOSTON.

At most large metropolitan hospitals which lie near the manufacturing and business districts there are treated many cases of accidents. In the Boston City Hospital, with which I have been connected as one of the staff for diseases of the nervous system for nearly fifteen years, many cases of injuries of various kinds are treated each year. Over 700 patients of this class were admitted to the wards during the year ending Feb. 1, 1908, in addition to those treated at the Relief Station, a branch hospital, and as out-patients at the Relief Station and the main hospital.

In many of the cases of injuries of the head the neurologic staff is called in consultation by the surgeon in determining the question of the nature and extent of the injury to the brain. In these cases I have been struck by the frequency of involvement of one or more of the cranial nerves when there has been a fracture of the base of the skull. This injury often enables one, in cases that are doubtful or in fracture of the vault, to make the decision that there is a fracture of the base. In looking over the neurologic and surgical literature I have found relatively little on this aspect of the subject, and it seemed worth while to call attention again to what is a well-known fact and to state my own experience in regard to the frequency and character of these injuries.

FREQUENCY OF COMPLICATION.

In the text-books on surgery these facts are usually mentioned, but I have failed to find any statement as to the frequency of the complication. This is probably due to the inherent difficulty in collecting reliable statistics about the subject. In conversation with Dr. Nichols, one of the surgeons of the Boston City Hospital, he has expressed the opinion that one case in seven of fracture of the base of the skull shows an involvement of the cranial nerves, and this estimate corresponds very closely with my results. Let me state at once that no one knows better than I the unreliable character of statistics drawn from records in which the point investigated has not been in mind at the time the records were made. This is especially true of hospital records, in which the house surgeon, in the multiplicity of detail in caring for large numbers of serious cases, often neglects to have notes made by his junior—who is responsible for the records—even of conditions which he himself has noted, and this, too, aside from the fact that in many of the more serious cases the examination necessarily must be incomplete, to say nothing of difficulties with unconscious patients in detecting involvement of nerves of sensation, or those subserving movements of the eyes. Still, while admitting these difficulties and sources of error, the figures I have obtained are striking.

I have taken from the surgical records of the Boston City Hospital only the cases of injury of the head in which a diagnosis of fracture of the base of the skull was made, or in which bleeding from the orifices of the head, ecchymoses of the conjunctiva, or the escape of cerebrospinal fluid from the ear or nose has made the diagnosis certain. Up to Jan. 1, 1908, I found 541 such cases had been admitted to the wards. Of these cases there were 69 in which the records showed peripheral involvement of one or more cranial nerves; that is, 1 in 7.8 cases, or a percentage of 12.75.

FREQUENCY OF INVOLVEMENT.

When we consider the frequency with which the various nerves are injured, either alone or in combination with others, we find the seventh, or facial nerve, by far the one most frequently involved. This, however, is very likely not only because it is actually more frequently injured, but also probably in part because affections of this nerve are more striking and can be more easily discovered in unconscious or partially conscious persons. I have found the facial nerve affected alone or in combination with other nerves in 44 cases, in 2 of which the trouble was bilateral.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The nerve which is next in frequency of involvement is the sixth, or abducens, which was paralyzed in 12 cases, once bilaterally. The auditory, or eighth, nerve was affected 10 times, and of these cases 4 were bilateral. It is possible that this nerve was partially affected in more cases, but I have excluded all cases in which the deafness was moderate, and in which there had been rupture of the membranum tympani, or where it could have been due to the injury of the middle ear. It was, of course, impossible to differentiate between the cases of deafness due to injury of the nerve trunk and those from fracture through the cochlea. Dr. Bullard,[1] in 70 cases of fracture of the skull investigated, found deafness in 9 cases, in 2 of which it was slight, and in 1 was diminishing and in 1 bilateral. The fracture was at the base or showed in the bony wall of the ear in 6, was at the occiput in 2, and in the frontal region in 1, while tinnitus was found only twice and in both cases without deafness.

The third nerve was next in frequency of affection in our series, namely 9 times. Most often all branches were affected, but at times the trouble was only partial, as in 1 case in which the movements of the eye up and down were impaired. In another there was ptosis only, while in a third the superior rectus was the only muscle supplied by this nerve that was affected.

The optic nerve was the one next most often involved. This occurred in 8 cases, and here I have included only the cases of blindness in which the diagnosis was confirmed by the discovery of optic neuritis or optic atrophy on ophthalmoscopic examination. Of the remaining nerves the olfactory, patheticus, trigeminal and hypoglossal were each affected once.

FREQUENCY OF COMBINED INVOLVEMENT.

The combinations of nerves injured were not very frequent in this series. Once the second, seventh and eighth were affected together. Both eighth nerves twice. Both seventh nerves once, and both seventh and the left sixth once. Both olfactory nerves, with the left fourth and partial left third was another combination. The second, third and sixth on one side were involved together once. The third and seventh twice, once on the same side. The third and sixth occurred together once. The right optic nerve and both sixth nerves were affected once. The optic and auditory twice, once on the same side and once crossed. The seventh and eighth together appear twice. The seventh and sixth twice, and the seventh and twelfth once. In eight cases nerves on both sides of the skull were affected.

I will give in condensed form some of the histories of these cases in which it was possible to observe the patients for some time after discharge from the hospital. It should be noted, however, that in a number of the cases included in these statistics the affection of the nerve disappeared while the patient was still under observation in the hospital for the original injury. This was particularly noted in three cases in the hospital records, two being of the facial nerve and the other of the abducens. In other cases it was noted in the records that the paralysis was improving. In these histories the numbers in parentheses are those of the records of the neurologic department, and I wish to express here my thanks to my colleagues, Drs. Prince, Knapp and Bullard, for permission to use their notes.

ILLUSTRATIVE CASES.

CASE 1.—*History.*—John S. (13288), was seen first at the Out-patient Department on June 21, 1907. Four weeks before he had been struck in the left eye by the point of an umbrella, at the junction of the eye and nose, and was unconscious for half an hour, and dazed for two or three days.

Examination.—On examination there was slight divergent strabismus of the left eye, due to partial paresis of the third nerve, and also primary optic neuritis in the left, according to the report of the ophthalmic surgeon, and the left pupil did not react to light. Further examination showed paresis of the right extremities with ankle clonus but no Babinski's sign, and slight diminution of the sense of touch on the right side of the body. The palate, face and tongue were unaffected.

CASE 2.—*History.*—(This case is from my private records.) Grace T., aged 5, was first seen by me on April 8, 1903. Four weeks before she fell down stairs striking the head, though there was no open wound. She was unconscious, and remained so for five days, and it was nine days before she spoke. There was no bleeding from the ears or nose, but swelling and ecchymosis of the right eye. There was vomiting at the time of the injury. She remained in the hospital under the care of Dr. Conant, who referred her to me, for two weeks, and then returned home. During her stay at home, she had only complained of headache once, but she had been unable to open the right eye.

Examination.—On examination there was a slight depression of the skull in the neighborhood of the right occipito-parietal suture. The vision seemed fair in both eyes. There was complete paralysis of the right third nerve with ptosis, and dilatation of the pupil, and probably also paralysis of the superior oblique muscle. The fifth, sixth, seventh and eighth nerves were normal, as well as the extremities. The paralysis of the third nerve improved, so that by July the ptosis had almost disappeared, and the eye could be turned in nearly to the full extent, and somewhat up and down. her vision had failed in the right eye, so that she could not make out the form of quite large objects, and the disc showed beginning atrophy. The fourth nerve seemed to have recovered, as the eye could be turned down and out very well. The vision improved slightly from counting fingers only till when last seen on Jan. 18, 1908, it was 1/200, while in the left eye it was 10/10. The pupil was moderately dilated on the right, and there was partial ptosis on this side and the eye was not moved up, and in, with quite normal range.

CASE 3.—*History.*—E. I. (10969), was admitted to the Boston City Hospital, Oct. 24, 1903. He had been struck by a piece of a bursting emery wheel, and showed a lacerated wound of the bridge of the nose, extending towards the left into the forehead, into which a finger could be inserted three-quarters of an inch, and splintered bone felt. The lid of the left eye was ecchymosed. No paralyses were noted. Fragments were removed from the frontal bone, as well as a large part of the ethmoid, and the inner third of the roof of the orbit. He vomited blood and was unconscious. He was discharged from the hospital on Nov. 10, 1903, and for three weeks after this had severe headaches, but when seen in the out-patient department on Jan. 11, 1904, this had been gone for two weeks, and he was complaining of diplopia and loss of sense of smell.

Examination.—This showed the right pupil larger than the left, though both reacted well. There was paresis of the left superior rectus, and left superior oblique muscles only, with diplopia on looking up and in, and down and in, with the characteristic inclination of the images. The hearing, facial movements, sensation, and the condition of the extremities were normal.

CASE 4.—*History.*—Edward B. (13866), on Oct. 6, 1907, had his head crushed between two cars. When he entered the hospital the same day he was conscious and rational, and showed a horizontal scalp wound, seven inches long, over the right ear, which exposed the bone. There were loose fragments of bone in the wound, and much laceration of the brain, with moderate external and internal bleeding. A crack extended forward from the anterior end of the wound. Both eyes were ecchymosed. On October 18 it was first noted that there was paralysis of the left superior rectus, and a paresis of the external rectus of that eye, while the fundi were normal. On March 25, 1908, when he was again seen after discharge from the hospital, at the end of nine weeks stay, he complained of some pain and vomiting till about six weeks before, disturbed sleep, attacks of vertigo, and tinnitus and diplopia.

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[1] Permanent or Later Results of Fracture of the Skull, Boston Med. and Surg. Jour., 1897, cxxxvi, 404.

Examination.—The sense of smell was not affected. Sensation was diminished over the area supplied by the first and second branches of the fifth nerve, there was paresis of the left levator palpebrarum superioris, and of the left external rectus. The examination was otherwise negative. He improved while under observation, but was not entirely well when last seen.

CASE 5.—*History.*—James B. (9654), entered the hospital March 23, 1899, having been injured while oiling the engine on a boat. He was conscious, but suffering from shock, and bleeding from the nose and both ears, and on examination it was found that the left eye could not be moved out, nor the eyelids closed, and he was somewhat deaf. There was a lacerated wound in the left temporo-occipital region, 5 inches long, with the bone exposed, but no fracture seen. He vomited several times, the vomitus containing blood. The next day it was noticed that both sides of the face had become paralyzed.

Examination.—Examination at the out-patient department on May 17, 1899, showed that the eyes and pupils were normal except for paralysis of the left external rectus, and slight nystagmus on the right on looking in. The watch was heard on the right side on contact only. Tuning fork air conduction better than bone, and about alike in the two ears. In the right ear there was a cicatrix in the anterior superior quadrant of the drum membrane, with some thickening and retraction. In the left ear there was deformity of the canal posteriorly in the region of the facial nerve, and the membrane was ruptured posteriorly. The aural surgeon reported that there was enough change in the middle ear to account for the condition of the hearing, and he thought the left facial nerve was injured in the canal, while on the right there was no evidence of this. There was some improvement and in November, 1905, it was noted that by a great effort he could wrinkle the brows a little, and could close both eyes completely though with very little force. The muscles of the lower part of the face on the right had very little voluntary motion, while on the left they moved fairly well. There was considerable fine spasm of the facial muscles after voluntary motion.

Both sides reacted to faradism, and galvanism without polar change, but with diminished irritability to both currents, this being slightly more marked on the right than the left side. There was still internal strabismus of the left eye with diplopia.

CASE 6.—*History.*—Albert L., (vol. 447, p. 214), entered the Boston City Hospital July 24, 1905, having been struck on the head by a falling timber. He was partially conscious, bleeding from ears, nose and mouth, and there was a hematoma on both sides in the frontal region, and above the left ear. There was no paralysis at that time, either of the face or elsewhere. Three days later a paralysis of the left side of the face, involving all three branches, appeared, and the next day this appeared on the right side also, and did not improve up to the time of his discharge from the hospital, when he was lost from observation, although he was told to report.

CASE 7.—*History.*—Joseph H., (12368), entered the Boston City Hospital, Feb. 1, 1906, having fallen from the seat of his cart. He was conscious but irrational. There were ecchymoses about both eyes, bleeding from both nares, and the right ear, and a lacerated wound 1½ inches long in the right parietal region, with no depression, and the bone not exposed. There was no paralysis till the eighth day when a slight right facial paralysis was seen.

Examination.—He was examined on February 19 at the out-patient department. There were then slight exophthalmos and slight greenish ecchymosis under each eye. The pupils were equal and reacted, though a little sluggishly. Smell, taste, hearing, sensation and the eye movements were all normal. There was paralysis of the right side of the face, though the eyelid could be closed completely, with diminished reaction of the muscles to the faradic current, and some polar change to galvanism in both facial nerves. The aural surgeon reported that there was probably fracture of the superior meatal wall with effusion in the middle ear, while the auditory nerve was not markedly affected. He thought the facial nerve probably affected by a fracture through the foramen at its entrance into the attic. On March 26 he could move the two sides of the face nearly equally well, but there was still slight quantitative diminution on the right to electric stimulation by both faradic and galvanic currents.

CASE 8.—*History.*—John B. (12937), entered the hospital Jan. 13, 1907, having been knocked down and robbed. He was unconscious and had a hematoma on the right behind the mastoid, and there was blood in the right ear, and the nose, and also a discharge of cerebrospinal fluid from the ear. The left pupil was larger than the right, and there was a facial paralysis on the right.

Examination.—He was examined Feb. 13, 1907, and there was paralysis of the right side of the face, all branches being involved. The pupils and eye muscles were normal except for nystagmus on looking laterally. The watch was heard on the right at 4 inches and on the left at 20 inches. Fork (512) was heard on the right at 8 inches and on the left at 18 inches; air conduction better than that by bone in both ears. Weber, positive on right. The facial muscles on the right showed no reaction to faradism, and to galvanism the reaction of degeneration with slow contraction and CaCC greater than AnCC. The aural surgeon reported a fracture of the glenoid fossa into both external canals, also probably a fracture of the posterior wall of the external canal into the mastoid process, as well as a probable fissure of the Fallopian canal on to the seventh nerve. When last seen, March 27, there was a response to strong faradism in the muscles, but not on stimulation of the nerve, while to galvanism there was still a marked reaction of degeneration.

CASE 9.—*History.*—David G. (12993), was admitted to the Boston City Hospital March 7, 1907, with a lacerated wound 1½ inches long over the left eyebrow, bleeding from the left ear, where the drum was ruptured, but no note was made of any paralysis at that time. He had been struck on the head by a falling bale of cotton, and was dazed, but not unconscious. For twenty-four hours he had intense headache, and occasionally afterwards. On March 13, 1907, when he was seen in the out-patient department, one week after his discharge from the hospital, he complained of vertigo with a tendency to fall to the left. There was no nausea or vomiting, but on lying down there was a constant noise in the left ear, but not in the right, and pain in the left ear if he lay on that side of the head. He had also noticed deafness in the left ear and inability to close the left eye, while the mouth drew to the right.

Examination.—There was a facial paralysis on the left, complete in all the branches, while the left side of the face seemed slightly less sensitive to touch, pain and temperature stimuli, but there was no affection of the motor portion of the fifth nerve. The pupils were normal, and the vision equal in the two eyes. There was no diplopia, but a slight slow nystagmus on lateral movements of the eyes. Smell was normal, and taste was not affected. The watch was not heard on the left. Forks, with high and low pitch were heard on the left, but less plainly than on the right, while air conduction was better than that by bone in both ears. The tuning fork on the vertex was heard better on the right. The left ear showed an absence of the light reflex, and dull membrane with the landmarks obscured. On electrical examination the muscles of the face responded on both sides to faradism, but the left side required a stronger current than the right. To galvanism on the left the muscles showed a slowed contraction and diminished irritability, while CaCC was greater than AnCC. The muscles about the eye and forehead were most affected. The examination was otherwise negative.

THE COURSE OF FISSURES

Walton[2] has studied the course of fissures of the skull, and Cushing of Baltimore gives an excellent sketch of the present knowledge of these *bursting fractures*. He quotes Bruns,[3] who in 470 cases of fracture of the skull found it basal in about one-half the cases and the base involved in from 70 to 75 per cent. of fractures of the vault. Cushing shows that in bursting fractures of the skull the cranium is compressed and the fissures tend to run vertically in the direction of the meridians passing through the poles at which the pressure is applied, resembling the direction of the segments of an orange, and illustrated by the method of separation of the parts of the bulb of a urethrometer. As he states it, the fissure takes a direction parallel to the polar diameter and tends to follow one of the meridians of the sphere.

Other things being equal, it would begin in the equatorial zone of one of the meridians and follow the line of least cohesive resistance toward the pole of impact. As the base, however, is weakened by the foramina, no matter in what direction the polar diameter of the impact lies, the portion of the meridian which passes through the base will be the one to give way first whether it happens to be near the pole or the equator and most of the fissures cross the basal fossa, anterior, middle or posterior. He also quotes Hilton, who called attention to the fact that portions of the base are strengthened by processes such as the zygoma and called these buttresses.

Felizet says that fissures pass down between the buttresses of Hilton to the nearest basal fossa, of which the middle is more often affected than the anterior or posterior. Cushing also states that it is a matter of dispute still whether the fissures avoid the foramina or not, and thinks this probably depends on the relative strength of the rim of the foramen and the neighboring bone, so that in cases in which the rim is thick, as at the foramen magnum, the base of the skull is not necessarily weak. He says that the posterior lacerated space, foramen ovale, facial and acoustic foramina are the ones most frequently involved. Later, in speaking of the relative frequency of involvement of the various cranial nerves, he says that the facial is the most often involved, the abducens next, or the third nerve, followed by the olfactory, optic, trigeminal, glossopharyngeal, vagus, spinal accessory and hypoglossal.

In my cases the order of involvement was nearly the same, namely, facial, then the abducens and auditory. Cushing does not separate the injuries of the seventh and eighth nerves, which should be done, my cases showing that either nerve may be affected alone, the facial especially frequently without an involvement of hearing, only a deformity of the bony canal of the ear, or a rupture of the drum being present. Next in my cases come the third and then the second nerve, one of the most serious injuries, followed by scattered cases of affection of the olfactory, patheticus, trigeminal and hypoglossal. This series presented no cases in which injury of the glossopharyngeal, vagus or spinal accessory was observed.

COMBINATIONS OF NERVES INJURED

In regard to combinations of the nerves which are injured Cushing speaks only of groups of the seventh, eighth and sixth, of the fifth and third; and of the ninth, tenth and eleventh. In my series, though the number of combinations is too small to admit of any inference as to the frequency of any particular combination, the most frequent were seventh and eighth, both eighth nerves, both seventh nerves, seventh and sixth, second, seventh and eighth, second, third and sixth, both seventh nerves and one sixth, both first nerves and one third and fourth; the third and seventh nerves, both crossed and on the same side, second and eighth nerves, crossed and unilateral; and the seventh and twelfth nerves. The only inference which I think we are justified in drawing from these facts is that aside from the combinations in which the nerves lie very close together, so as to be liable to injury by a single fissure, as in the case of the seventh and eighth nerves and the second, third, fourth and sixth nerves, the frequency of multiple fissures makes the groups, both as to the nerves involved and the side affected, much more irregular than one would expect.

METHOD OF PRODUCTION.

In regard to the method of production of these paralyses of cranial nerves we probably have to deal with varying conditions. In some cases a meningeal hemorrhage may compress one or more nerves within the skull. In other cases we probably have to deal with the effects of increased intracranial pressure, such has been shown by the studies of Bullard, Cannon, Crile, Cushing and others to occur in cases of trauma to the skull. An anology to this condition is seen in the frequency of affections of the optic nerves and the abducens from simple increase of intracranial pressure such as in cases of hydrocephalus and tumor of the brain.

It is quite possible that the fairly frequent involvement of the sixth nerve in fracture of the skull, which in most cases recovers, is due to this cause. The other and probably most frequent cause is undoubtedly the injury of the nerve by compression, or in rare cases laceration from the displacement of the walls of the foramen, such as has been seen in the deformities of the walls of the external auditory canal in some of these cases and those reported by others. In cases with no displacement of the bone of the foramen we probably find the more curable cases in which there is a more or less severe reaction of the nerve sheath to the bruising and laceration received at the time of the injury.

PROGNOSIS

The prognosis for recovery differs very markedly in these cases. In a good many the paralysis had disappeared before the discharge of the patient from the hospital, which usually took place within two or three weeks from the time of admission. In these cases we probably had to deal with simple edema of the sheath of the nerves. In other cases the recovery was very slow, and in many incomplete. This is especially true of the affections of the optic nerve which seem to have all gone on to partial or complete atrophy. These results coincide with our knowledge of the difficulty of repair in the neurones of this nerve, which act in this respect like the central neurones rather than like the peripheral neurones of the other cranial and spinal nerves.

This is possibly true also of the auditory nerve, though the frequency of involvement of the internal ear in cases of fracture, and also in the cases of deafness following cerebrospinal meningitis, makes it difficult to make any positive statement in regard to this nerve. The severer cases of injury of nerves which pass through a long canal in the bone, which is more liable to show displacement of bone, as in the case of the facial nerve, are also much more unfavorable, and the same was true in a number of my cases of injury to the third nerve.

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[2] Ann. Surgery, 1904, xl, 642.
[3] Keen's Surgery, iii, 68.
[4] Felizet: Clin. Chir., 190 , xxviii, 192.

TREATMENT.

The treatment, aside from the use of drugs, such as strychnin, for the arrest of atrophy, as in cases of affection of the optic nerve, consists of the use of various forms of electricity and massage as in other forms of peripheral nerve injury, in which this can be used. In severe cases of injury, as of the facial nerve, which do not show decided improvement within a reasonable time, such as six months or a year at most, nerve suture with some other nerve such as the hypoglossal or spinal accessory, provided these nerves have escaped injury, seems to be the most promising method of treatment.

DISCUSSION.

Dr. Albert E. Sterne, Indianapolis: I have an interesting case of what I deem a fracture of that portion of the base represented by the orbital plate. The patient was a heroine of the disaster in which the town of Fontanet was wiped off the face of Indiana by the explosion of the DuPont powder-mill last September. This young women was a school teacher and the building in which she was teaching was completely wrecked. She had the presence of mind to tell her little charges (before seeking safety herself or thinking of seeking safety, although she was near the door) to get under their benches. They did so, but by that time the roof was practically down on them. The teacher was caught between the top of a bench and the roof. She was found in that position, unconscious, the right side of her face being down on the top of the bench. She was unconscious for several days at the hospital at Terre Haute. At the time the surgeon and the oculist first saw her there was great protrusion of the right eye, a cut over the forehead; the forehead was incised in the line of the brow, as it was supposed that a fracture extended into the frontal sinus. The outer plate of the frontal sinus was removed. The protrusion of the eye lasted several days, but I do not know whether or not the swelling was largely extra-orbital. When I saw the patient, two months after the injury, the vision on the right eye was reduced, there was total paralysis of the third and fourth nerves, but no paralysis of the sixth nerve on the right side. During her five months' treatment vision increased almost to normal, being about 15/20 at the present, and she has only a palsy, of course with double vision after she reaches a certain axis in the upper quadrant. She has very little motion of the superior rectus; she has absolutely good motion of the internal rectus, of the inferior, of the superior oblique and the inferior oblique, the only affected muscle now being the superior rectus. At the time I first saw her I was not sure that there was not a lesion of the nerves themselves in the orbit, but as time went on and distinct recovery of the function of the eye muscles occurred I felt that that was probably not the case. Instead of being protrusive, the eye was sunken in the socket, possibly between an eighth and a quarter of an inch; I concluded that there had been a hemorrhage which had left an adhesion which was holding the bulb back in the orbit. At this time the right eye is almost at a level with the left, and I feel sure that the lesion was one of pressure through hemorrhage with subsequent adhesion rather than a direct lesion and tearing of the third and fourth nerves themselves. In general health the patient has improved so that at the present time she is practically well, although she still has a little diplopia on the upper quadrant.

Dr. J. J. Thomas, Boston: I omitted to speak of the mechanism, which I think varies in different cases. In a good many of the cases in the hospital the patient recovers completely from the paralysis, but usually it is obstinate, and those are the cases in which there is apt to be a bony deformity. Frequently there is hemorrhage into the nerve, and therefore degeneration of axis cylinders, while in other cases the increase of intracranial pressure following a blow may account for the degeneration of certain nerve fibers. In the more severe cases we have to do with bony deformity, and that has been shown in a number of cases in which this deformity was seen, particularly in the auditory canal. Prognosis with regard to lesions of the optic nerve is very poor, as the nerve does not regenerate easily and is usually followed by complete atrophy. The eyeground even immediately after the injury shows a swelling of the optic nerve. In a great many injuries to the optic nerve, whether due to pressure or crushing of the nerve fiber there is incipient neuritis and later we can always see optic atrophy on ophthalmoscopic examination. In the cases in which I have encountered lesion of the second nerve, the diagnosis has been confirmed by ophthalmoscopic examination, which gives important aid in both the later and earlier stages of the trouble.

DENTAL EDUCATION.*

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Does dentistry in this country retain the international pre-eminence for which it has been so long noted? Many Europeans of to-day are already making claims of superiority over Americans. Admitting that American dentists are still in the vanguard as regards the quality of their professional services, it must be admitted that the contrast which existed twenty-five years ago between the dentistry of Americans and that of their foreign colleagues is fast disappearing. This can be due to two reasons only: the advance of dental education abroad and the lack of the same at home. The controling factor in this world is evolution. Consequently, a stagnation means nothing short of retrogression.

History shows that in no country has there ever been witnessed such a demonstration of inventive genius, especially in the line of everything pertaining to mechanics, as in the United States. This has made this country the world's leader in most of the arts, and by virtue of the same attribute has brought about the international superiority of American surgery and American dentistry.

The surgeon, whether of a general or a special field, comes to a great extent under the same influences which are such potent factors in the success of the dentist. His inventive faculties are brought into constant use in every operative procedure which he undertakes. To insure success, his technic must be constantly varied, not only in his operations, but in the designs for artificial replacement of lost or malposed portions of man.

On this account, it is not so many years ago that the surgeon was considered the inferior of his medical colleague. He was called a "bone-setter," just as dentists of to-day are spoken of as "tooth-carpenters."

If we go back to about 1840 we will find that the general physician with the narrow prejudice of that day looked on the general and dental surgeon with equal superciliousness. The practice of general medicine was so empirical and so replete with error that it was bound to stir a feeling of just resentment against the wise owls in medicine at that time.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Here it was that general and dental surgery took divergent paths. The general surgeon never forgot that surgery was an inseparable part of medicine and acted on this theory so consistently that to-day it is universally admitted that, to become a good surgeon, it is necessary first to be a superior physician.

The dental surgeon, incensed at the unjust treatment he was receiving from his medical colleagues, rebelled and founded the science and art of American dentistry. This meant nothing more than the treatment of the teeth without regard to the rest of the body. On account of the benighted state of biology, pathology and chemical physiology at that time, the dentist was well able to hold his own.

The result of this separation between general medicine and dentistry is the American dental college of to-day.

It is idle to make surmises as to what the present condition of dentistry would have been had this secession from the parent body not taken place. Nevertheless, it is difficult at times to refrain from imagining what the results would be were this specialty practiced by men fully equipped in all the rudiments of general medicine and trained at the same time in the practice of a specialty that ranks pre-eminent in importance as a branch of preventive medicine. Under such conditions we should see the leaders in this specialty on equal terms with the most eminent men in medicine.

While many of the old guard may continue to make annual boast of the dentists' superior position, and of their equality with medical men, the younger men of merit refuse more and more to be cajoled by this form of sophistry. They have been too often worsted in the attempt to have their services recognized, not only in hospitals, but also in educational institutions. They have had to listen to the slighting admission of the members of the medical staff that, while the latter recognize the need of a dental staff, they can not trust any but medically educated men. No one can deny that, although to dentists is entrusted the sacred duty of preserving the health of the mouth and more especially of the teeth, whose functions properly performed, contribute more to a healthy old age than do any other known means, dentists as a body, nevertheless, occupy an inferior position before the public.

This statement perhaps elicits a protest. The dentist makes the most of his strongest argument when he draws attention to the gross ignorance of the average medical man on dental matters. It can not be denied that this lack of fundamental dental education has caused many serious errors in diagnosis and treatment. Does this ignorance of the physician, in the light of present-day knowledge about a portion of the body, excuse the lack of education of the dentist of to-day, not merely in the anatomy and physiology, but also in the pathology, of man as a whole?

The breach between general medicine and dentistry has been widened and deepened in the past by ignorance, pique, and most of all by ill-liberality of mind. To such an extent has this prejudice affected some of the distinguished members of our profession that the sight of the degree of M.D. is their signal for "on to the fray!"

Is this for the benefit of mankind, ye high priests who have been ordained for the alleviation of human suffering and the betterment of man? Well may the human body exclaim: How long will my ministers of the portal of life be at war with all the remainder of my servants? This is no fanciful presentment, but a true indictment of many great minds who have used their best endeavors to keep alive discord and enmity. It requires less courage to make this statement to-day than formerly, because the hands of the mighty have weakened and their numbers are daily diminishing. The light of day is breaking in dental education. How many are there to-day willing to deny that there would be infinite advantage in a thorough medical education which did not sacrifice any dental educational factors now at command?

From all sides of the country comes the one answer: The plan is idealistic, but impracticable. Is the solution of the problem, then, impossible, as so many seem to believe?

It is not my intent in this present paper to enter into detail in regard to the great defects in the dental curriculum of to-day. Every careful investigator can but too readily satisfy himself on this point. Without a clear comprehension of the pathology of the entire body, any study of the pathology of the mouth alone is bound to be faulty. The evil results of this system of education are most apparent in two directions. One is the acceptance, by the mass of dentists, of all kinds of erratic ideas of pathology if the presentation is made in a plausible manner. The proneness of the mass of dentists to accept pathologic absurdities is not amusing, but profoundly distressing. The second bad result of such superficial education is the yearly graduation of a body of dentists more or less properly skilled in dental manipulation and technic, but absolutely devoid of ability to diagnose any complicated difficulty. Even years of experience will bring only to a few of this class a modicum of the knowledge necessary for diagnosis. The highest manipulative skill can never compensate for the continual possibility of doing the wrong thing.

There is but one remedy for this condition of affairs. The dentist of the future must be, first of all, fully grounded in the knowledge of medicine. This has been successfully accomplished in Europe, and it can be done much better here.

The argument that the study of medicine destroys the student's manipulative ability is ridiculous when the magnificent skill of the general surgeon, the ophthalmologist, the gynecologist and the rhinologist is observed.

The main argument brought forward is the impossibility of the student body finding sufficient time to study medicine and dentistry simultaneously. "It would take too many years" is the universal cry. At first glance, this seems plausible and unanswerable; but dentists who maintain that they should be on an equality with the healers of any portion of the body ought to be willing to take at least as much time to become properly qualified as dentists as physicians need in order to master the elements of their profession.

Few medical graduates to-day are audacious enough to enter into practice immediately after graduation. Nearly every one expects to spend at least two years as interne in a hospital, the equivalent of our dental infirmary. It is a recognized fact that without postgraduate work, the medical education of to-day has but little value. If it requires six years to finish a physician's preparatory training, why should it take less time to complete a dentist's? The fact that this length of time is required to finish a physician's education causes no diminution in the number of medical students. On the contrary, the superior preliminary attainment of the medical matriculant over the dental can be easily demonstrated by personal investigation. In other words, the greater the attainment of the student, the more he is inclined to seek the profession in which he will find men of his own educational rank. Consequently, no better way can be found to attract students of superior merit than to raise the requirements to the highest standard.

The most powerful refutation of the argument based on time is the fact that one-third of the year is literally wasted in every dental school in this country. In the best of our institutions, instruction ceases about June 1 and commences about October 1. Would a young man beginning his life's career in any other calling take a few months' rest every year?

It is misleading to say that the dental student takes four months' respite from his studies. He has no other recourse; it is forced on him. The blame for this great waste of the student's time rests on the American method of dental education. The teacher of dentistry, at the end of eight months of conscientious labor, requires a respite from his arduous duties. He is entitled to his much-needed rest if his work is to be properly resumed the following session.

The root of the evil lies deeper than this. It consists in the fact that there ought to be two men for each position on a faculty where there now is only one. Scarcely a student graduates from a dental college who has not had at least one term during which illness has deprived the class of the instruction of some professor. Frequently, this entire course is lost; at best, some futile attempt is made to gloss over the student's loss.

Every actor of note has his understudy. In every preparatory educational institution skilled substitutes are at their command to fill, at a moment's notice, an hour vacated by a teacher's illness. Hospital services are rendered in the same manner the staff alternating in service so as to give each in turn a needed rest and also to have in this way some one always ready to fill a place vacated by illness. In every field it is becoming more recognized that a position of great responsibility should not be entrusted to one man alone. It is only a question of time when a dual faculty will be introduced into dental colleges. This will end the four-month vacation period and herald the advent of a rational dental education.

It is easy to criticise, to destroy the structure once erected, but there is little excuse for doing so unless something better can be built on the site of the ruins.

The faculty of a dental college should not be at the mercy of one man, for, while he may use his power only for good, there is no assurance that his successor will be equally conscientious. For the same reason, it should be made legally impossible to incorporate any proprietary school. To obtain the best results, the college should be part of a university and under the control of the university's officers.

With the exception of short vacations, not exceeding two weeks at a time, the twelve months could be divided into different semesters, so that the dental student would receive his medical instruction simultaneously with his special teaching in dentistry. Many different plans can be devised for accomplishing this end. The following is presented as a crude outline of what could be attained:

The dental student would take his place with the regular medical student, and would, in addition, devote a certain portion of his time to dental technic. The didactic dental course would be given in the intervals between the medical terms. The dental degree should be granted not less than one year after the M.D. degree has been obtained. The student would be supposed to have passed in all his theoretic branches by the end of his last year in medicine.

The fifth year would now be devoted entirely to the dental infirmary and would enable the theoretically perfect student to test his knowledge and skill by practice. This infirmary course, after all the examinations in theory were passed, would then become the equivalent of the young physician's hospital service.

The degree in dentistry would be granted only after the candidate had demonstrated in the infirmary his ability to put into practice the principles which he had been taught. The scope of dental teaching in this country must in time embrace some plan outlined on the above basis. Only when this advance in the curriculum has been made, will the degree in dentistry attain its real value.

38 East Sixty-first Street.

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Here it was that general and dental surgery took divergent paths. The general surgeon never forgot that surgery was an inseparable part of medicine and acted on this theory so consistently that to-day it is universally admitted that, to become a good surgeon it is necessary first to be a superior physician.

The dental surgeon, incensed at the unjust treatment he was receiving from his medical colleagues, rebelled and founded the science and art of American dentistry. This meant nothing more than the treatment of the teeth without regard to the rest of the body. On account of the benighted state of biology, pathology and chemical physiology at that time, the dentist was well able to hold his own.

The result of this separation between general medicine and dentistry is the American dental college of to-day.

It is idle to make surmises as to what the present condition of dentistry would have been had this secession from the parent body not taken place. Nevertheless it is difficult at times to refrain from imagining what the results would be were this specialty practiced by men fully equipped in all the rudiments of general medicine and trained at the same time in the practice of a specialty that ranks pre-eminent in importance as a branch of preventive medicine. Under such conditions we should see the leaders in this specialty on equal terms with the most eminent men in medicine.

While many of the old guard may continue to make annual boast of the dentists' superior position and of their equality with medical men, the younger men of merit refuse more and more to be cajoled by this form of sophistry. They have been too often worsted in the attempt to have their services recognized, not only in hospitals, but also in educational institutions. They have had to listen to the slighting admission of the members of the medical staff that, while the latter recognize the need of a dental staff they can not trust any but medically educated men. No one can deny that, although to dentists is entrusted the sacred duty of preserving the health of the mouth and more especially of the teeth, whose functions properly performed, contribute more to a healthy old age than do any other known means, dentists as a body nevertheless, occupy an inferior position before the public.

This statement perhaps elicits a protest. The dentist makes the most of his strongest argument when he draws attention to the gross ignorance of the average medical man on dental matters. It can not be denied that this lack of fundamental dental education has caused many serious errors in diagnosis and treatment. Does this ignorance of the physician in the light of present-day knowledge about a portion of the body, excuse the lack of education of the dentist of to-day, not merely in the anatomy and physiology, but also in the pathology, of man as a whole?

The breach between general medicine and dentistry has been widened and deepened in the past by ignorance, pique, and most of all by ill-liberality of mind. To such an extent has this prejudice affected some of the distinguished members of our profession that the sight of the degree of M.D. is their signal for "on to the fray!"

Is this for the benefit of mankind, ye high priests who have been ordained for the alleviation of human suffering and the betterment of man? Well may the human body exclaim: How long will my ministers of the portal of life be at war with all the remainder of my servants?

This is no fanciful presentment, but a true indictment of many great minds who have used their best endeavors to keep alive discord and enmity. It requires less courage to make this statement to-day than formerly because the hands of the mighty have weakened and their numbers are daily diminishing. The light of day is breaking in dental education. How many are there to-day willing to deny that there would be infinite advantage in a thorough medical education which did not sacrifice any dental educational factors now at command?

From all sides of the country comes the one answer: The plan is idealistic, but impracticable. Is the solution of the problem, then, impossible, as so many seem to believe?

It is not my intent in this present paper to enter into detail in regard to the great defects in the dental curriculum of to-day. Every careful investigator can but too readily satisfy himself on this point. Without a clear comprehension of the pathology of the entire body any study of the pathology of the mouth alone is bound to be faulty. The evil results of this system of education are most apparent in two directions. One is the acceptance, by the mass of dentists, of all kinds of erratic ideas of pathology if the presentation is made in a plausible manner. The proneness of the mass of dentists to accept pathologic absurdities is not amusing, but profoundly distressing. The second bad result of such superficial education is the yearly graduation of a body of dentists more or less properly skilled in dental manipulation and technic, but absolutely devoid of ability to diagnose any complicated difficulty. Even years of experience will bring only to a few of this class a modicum of the knowledge necessary for diagnosis. The highest manipulative skill can never compensate for the continual possibility of doing the wrong thing.

There is but one remedy for this condition of affairs. The dentist of the future must be first of all, fully grounded in the knowledge of medicine. This has been successfully accomplished in Europe, and it can be done much better here.

The argument that the study of medicine destroys the student's manipulative ability is ridiculous when the magnificent skill of the general surgeon, the ophthalmologist, the gynecologist and the rhinologist is observed.

The main argument brought forward is the impossibility of the student body finding sufficient time to study medicine and dentistry simultaneously. "It would take too many years" is the universal cry. At first glance, this seems plausible and unanswerable, but dentists who maintain that they should be on an equality with the healers of any portion of the body ought to be willing to take at least as much time to become properly qualified as dentists as physicians need in order to master the elements of their profession.

Few medical graduates to-day are audacious enough to enter into practice immediately after graduation. Nearly every one expects to spend at least two years as interne in a hospital, the equivalent of our dental infirmary. It is a recognized fact that without postgraduate work, the medical education of to-day has but little value. If it requires six years to finish a physician's preparatory training, why should it take less time to complete a dentist's? The fact that this length of time is required to finish a physician's education causes no diminution in the number of medical students. On the contrary, the superior preliminary attainment of the medical matriculant over the dental can be easily demonstrated by personal investigation. In other words, the greater the attainment of the student, the more he is inclined to seek the profession in which he will find men of his own educational rank. Consequently, no better way can be found to attract students of superior merit than to raise the requirements to the highest standard.

The most powerful refutation of the argument based on time is the fact that one-third of the year is literally wasted in every dental school in this country. In the best of our institutions, instruction ceases about June 1 and commences about October 1. Would a young man beginning his life's career in any other calling take a few months' rest every year?

It is misleading to say that the dental student takes four months' respite from his studies. He has no other recourse; it is forced on him. The blame for this great waste of the student's time rests on the American method of dental education. The teacher of dentistry, at the end of eight months of conscientious labor, requires a respite from his arduous duties. He is entitled to his much-needed rest if his work is to be properly resumed the following session.

The root of the evil lies deeper than this. It consists in the fact that there ought to be two men for each position on a faculty where there now is only one. Scarcely a student graduates from a dental college who has not had at least one term during which illness has deprived the class of the instruction of some professor. Frequently, this entire course is lost; at best, some futile attempt is made to gloss over the student's loss.

Every actor of note has his understudy. In every preparatory educational institution skilled substitutes are at their command to fill, at a moment's notice, an hour vacated by a teacher's illness. Hospital services are rendered in the same manner the staff alternating in service so as to give each in turn a needed rest and also to have in this way some one always ready to fill a place vacated by illness. In every field it is becoming more recognized that a position of great responsibility should not be entrusted to one man alone. It is only a question of time when a dual faculty will be introduced into dental colleges. This will end the four-month vacation period and herald the advent of a rational dental education.

It is easy to criticise, to destroy the structure once erected, but there is little excuse for doing so unless something better can be built on the site of the ruins.

The faculty of a dental college should not be at the mercy of one man, for, while he may use his power only for good, there is no assurance that his successor will be equally conscientious. For the same reason, it should be made legally impossible to incorporate any proprietary school. To obtain the best results, the college should be part of a university and under the control of the university's officers.

With the exception of short vacations, not exceeding two weeks at a time, the twelve months could be divided into different semesters, so that the dental student would receive his medical instruction simultaneously with his special teaching in dentistry. Many different plans can be devised for accomplishing this end. The following is presented as a crude outline of what could be attained:

The dental student would take his place with the regular medical student, and would, in addition, devote a certain portion of his time to dental technic. The didactic dental course would be given in the intervals between the medical terms. The dental degree should be granted not less than one year after the M.D. degree has been obtained. The student would be supposed to have passed in all his theoretic branches by the end of his last year in medicine.

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Dr. E. A. Bogue, New York: Harvard University opposed the four-year course when the plan was brought forward several years ago. The dean of Harvard Dental School took the ground that the courses were longer, and that the preliminary examinations were a great deal more severe than formerly. It seems now that he was right Many of the medical schools now insist that the education which the student must get preliminary to entering such schools must be of a higher, broader character than ever before.

Dr. F. B. Moorehead, Chicago: I think Dr. Rhein is absolutely right. It is impossible that a man can be a good dentist unless he is educated to see the whole field of dentistry and to view it from every angle, in detail and at the same time as the perfect whole. This requires great mental culture, which Dr. Rhein's scheme comprehends. I approve of the system of a dual faculty in dental schools. I do not think it impracticable, although there are reasons why the problem will not be easily solved. All medical schools have such faculties It would be a poor medical school that had only one man in the whole institution who could teach surgery, only one man to teach internal medicine. In case of sickness, in the interim the subject would go by default. A man at the head of a department ought to have competent instructors under him to step in and carry on his work successfully. I know of an institution one department of which suffered lamentably through one-half of the year's instruction because the head of the department was sick and there was no one to take his place

It seems to me that the question of a medical education for dentists ought not to permit of discussion, the answer to it is so obvious Who shall say that the rhinologist should be a medically trained man, the gynecologist a medically trained man, the orthopedic surgeon a medically trained man, but that the stomatologist need know almost nothing about the body and may confine his work to one little part? It is utterly absurd. Whether the medical training should come first and the dental second, or the dental first and the medical second, it will take some years to decide.

Dr Eugene S. Talbot, Chicago· Dr. Rhein has shown that we in America are fast losing our prestige as the best practitioners in the world. Mechanics are all right in their place, but the biologic side of our specialty is not advancing as it should. The ignorance displayed in any issue of a dental journal in the articles on pathology by members of our profession and teachers in dental schools is appalling. The announcements of dental meetings, national, state and local, offer clinics as drawing cards similar to side-shows of a circus. Dr. Rhein states the question fairly when he says that without a clear comprehension of pathology of the entire body, any study of the pathology of the mouth alone is bound to be faulty. We know that every pathologic manifestation in the mouth is due to some systemic derangement; hence the necessity of a broad knowledge of general pathology. The length of time for the study of our specialty should be four or five years, and six would be none too long. The college year should be continuous, divided into four semesters of three months each, as it is in some of the best medical schools In this way, a student can vary his work and at the same time have a short vacation. Dr. Rhein's suggestion could be carried out with little difficulty.

Dr. M. H. Fletcher, Cincinnati: I have no firm belief that Dr. Rhein's ideas will be realized soon. Some of us may not, but many of the men who are advocating this solution of the problem will live to see it. I shall make what effort I can to assist in having such a plan carried out.

Dr. Thomas L. Gilmer, Chicago: I have never had the slightest doubt that a medical education for the dentist was desirable. In time the educational change advocated by Dr. Fletcher may come. Meanwhile let us not indulge in harsh criticisms of the present schools and teachers who are trying the best they can under present conditions to elevate dentistry. In the school with which I am connected we have junior teachers in practically every branch. The junior is not equal to the senior teacher, but we recognize the fact that he must be capable of taking the place of the senior teacher during a temporary absence. No one believes more strongly than I that only such dental schools and medical schools should be tolerated as are connected with universities. I believe a four-year course none too long, but prefer to have a student for three years with a preliminary education sufficient to enable him to comprehend what is to be taught, rather than one for a much longer period without the better preparatory education.

Dr. G. V. I. Brown, Milwaukee: There should be an effort made to bring about greater uniformity between the curricula (I wish we might include them all under the word "curriculum") of the different colleges, and I feel sure that the better class of universities would be only too glad to cooperate to the end that there may be better courses. I believe that the members of this Section should set in motion an effort that may result in an organization with the object of improving the curricula of the different dental schools.

Dr. N. S. Hoff, Ann Arbor, Mich.: A few years ago the representatives of four or six schools agreed to adopt the four-year course the following year; but when the time came all failed but one to do so. Then the Association of College Faculties adopted the four-year course, tried it one year, and then went back to the three-year course. The sentiment for some extension has not died out, for we need a four-year course. Could the university with which I am connected have had the support of the profession, we should never have gone back to the three-year course. It is good to keep up this agitation, for we can not afford to stand still; but we must not censure the colleges too much when we fail to support their efforts to do our will. There is a business aspect with which all colleges have to contend. They must have support in the way of attendance. The best of our schools would not have twenty-five students if it took the advanced stand advocated by Dr. Rhein. Our school has always maintained a high standard of preliminary education, but it has always been to our harm so far as progress in a business way is concerned; and that is the difficulty with which nearly every school has to contend. It will be difficult to convince most schools that it is possible and practical to adopt this plan and expect even moderate business success. It might be possible to induce state universities, which are entirely supported by state funds, to undertake it, because when any one of their boards of regents believes in a four-year course of instruction it will be adopted whether there are ten students or one; but one can not appeal to other schools on this basis, because it means bankruptcy.

Dr. G. V. I. Brown, Milwaukee: A few of the men connected with the universities should get together occasionally, go over this question point by point and adopt such changes as can be adopted. The regent of most any university would, within limits, do whatever the faculty advised him to do, but he would expect the faculty to make good, and if our students fall off and lose interest the plan is a failure and it comes back on us. We must avoid that, for we are not yet prepared to make good. We ought to have a thoroughly outlined, well-arranged curriculum on which we are in accord with the idea that it is the best kind of dental education. If we can convince the dentists and people of this country that whatever course we may finally adopt offers the best education, it does not make any difference whether it requires four or six years to complete it, we can get the students; but until such time we can not.

Dr. M. L. Rhein, New York. We must regulate educational matters on a business basis in order to make education a practical success. If our educational institutions are shown how they can make the degree in dentistry a supplement to a medical degree without losing pupils I believe that the plan would successfully meet every objection. Every attempt heretofore in that direction, like the adoption of the four-year course has resulted in such a loss of students as to make it a financial impossibility. There was no stronger advocate of the four-year course than the dental department of the University of Pennsylvania, the members of the faculty adopted it and were forced to give it up because they did not feel that they could stand the decrease in the number of students. My plan I believe overcomes that difficulty. It entails more work for the faculty—that is more students under the medical staff without a proportionate raise in salaries.

If a university having both a medical and a dental department would advertise to give students a year's course in both departments for the same tuition fee now required for a separate course in medicine or dentistry it would be a success. The men who are desirable students would jump at the opportunity to secure such a combined education for one fee, and what difference would it make to the medical faculty if the number of students in their class-rooms was twice as great?

In all this it has been furthest from my thought to criticise the efficiency of the men who are teaching dentistry to-day to the best of their ability.

Dr. Hoff speaks of the injury done students by divergence of teaching among the men in the same department. The man who is studying dentistry or medicine or both, has reached that period of life and is possessed of such educational attainments as to have a logical mind. It is far better that those divergent views whether in regard to surgery, pathology, the theory and practice of operative dentistry or prosthesis should be brought to the attention of that student in his own institution, rather than that he should meet them in after life and feel that his mother institution was defective in her teaching. In my opinion, then a teacher of pathology ought to tell his class the views which diverge from his, presenting his own views and making due allowance for the reasoning powers of the students. Any student not capable of logical deduction at that age makes a mistake in taking up any branch of the profession of medicine.

There is no place to-day for empirical medicine. Fifty or sixty years ago there was nothing else, scientific medicine did not exist. Many dentists who do not hold the medical degree admit their shortcomings in diagnosis, which is the secret of professional success. When large numbers of men candidly admit that they wish they had been grounded in the practice of medicine then the sentiment is present and the results are bound to follow sooner or later.

I agree that a large part of the instruction in pathology must be in the laboratory. I claim that the clinical demonstration of pathologic study on the living subject is as important as the laboratory work.

NUTRITIVE AND NEUROTIC DISTURBANCES OF THE HAIR.*

L. DUNCAN BULKLEY, A.M., M.D.

AND

HENRY H. JANEWAY, M.D.

NEW YORK CITY.

The hair, when attached to the body, is a live and more or less active portion of the economy, subject to constant growth from its root. The proof of its live character is found in its turning suddenly gray in its entire length, under certain conditions, and also in the changes found at the extremities in fragilitas crinium and trichorrhexis nodosa, as will be mentioned later.

When shortened by cutting, hairs have an indefinite life, but when uncut they tend to fall normally after a certain period, and are replaced by new structures formed from the papillæ and lining cells at the bottom of the follicle. The periodic shedding and reproduction of the hairy coats of certain animals, as well as the slight constant falling of the hairs of the head, eyebrows, etc., illustrate this, while the constant regrowth when hairs are extracted from the face of a female also demonstrates the vital power of the hair follicles under normal conditions.

In health the hair has a very firm hold on the skin, as is shown by the repeated instances on record where the scalp has been torn off when the hair has become entangled in machinery, and yet in certain conditions of disease it may be so affected as to break off or fall out with a touch. It may also lose color or change in color, character or even shape, often from causes thus far unknown.

Certain diseased changes in the hair have for some time been recognized as due to the action of grosser parasitic micro-organisms, as in ringworm and favus, in other conditions, as in dermatitis seborrheica, the disturbance in the nutrition of the hair is believed to be caused by the presence of smaller organisms, as cocci, and some have claimed a parasitic form of alopecia areata. In others, as in folliculitis decalvans and dermatitis papillaris capillitii, the loss of hair is due to pus organisms. All of these are excluded from the present consideration.

But there is a much larger and very important group of disturbances of the hair which are caused by derangement of nutrition and innervation going on within the follicle, which it is well to consider from a broad point of view. We all know that certain physiologic states of the system are attended with conditions relating to the growth, atrophy and changes in color of the hair, and we can thus readily understand how pathologic conditions of the economy can induce similar or dissimilar alterations in the hair structure. That we do not yet fully comprehend all the reasons for this nor the exact methods in which they occur, is no reason for our not seeking to understand the relationship of these affections, or some of the causes which are apparently connected with them.

All of these troubles of the hair are so frequently regarded as purely local affairs and treated, often inefficiently, by external measures alone, that it is worth while to examine whether there may not be constitutional conditions back of them, the rectification of which will aid in accomplishing the results desired.

With this end in view, we will briefly consider the various alterations of the hair belonging to this group, which may be conveniently presented in the following tabular form.

In examining this table, the elements of which are arranged in a somewhat logical order, we find that in many of the affections there is discovered either a natural tendency to the hair disorder in question, or a well-recognized cause, or at least a physical condition which occurs antecedently. But in each form of hair disturbance we have also to recognize that in a certain proportion of cases we can find no adequate cause, and to these we give the designation *idiopathic*. This of course is an error, for they are not really idiopathic (ἴδιος occurring independently), for every event in Nature must have a cause, only as yet we have not been able to definitely determine the etiology in many instances. We will now look more closely into the various portions of this table.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association at the Fifty-ninth Annual Session held in Chicago, June, 1908.

NUTRITIVE AND NEUROTIC DISTURBANCES OF THE HAIR.

1. Hirsuties
   - Normal or natural at puberty.
   - Abnormal
     - At the menopause.
     - With ovarian or uterine disorder.
     - In the insane.
     - Idiopathic.
2. Alopecia
   - Congenital
   - Acquired
     - Senile—normal or natural.
     - Premature
       - Symptomatic
         - After fevers.
         - In syphilis.
         - From eczema, etc.
         - From nerv. shock.
       - Idiopathic
3. Canities
   - Congenital—albinism.
   - Acquired
     - Senile, normal or natural.
     - Premature
       - Sudden—from nervous shock.
       - Gradual
         - Partial
           - Along nerve tr'ks
           - In leucoderma.
         - General
           - From grief.
           - Idiopathic.
4. Fragilitas crinium
   - Symptomatic, after fevers etc.
   - Idiopathic.
5. Trichorrexis nodosa.
6. Alopecia areata.
7. Monilithrix.

I. HIRSUTIES.

The first thing that strikes us in regard to excessive growth of the hair is that, while in infancy and childhood both sexes have no hair on the face, although it grows on the scalp, nevertheless at a later stage of life, which we call puberty, it begins to develop on the face of the male, but only very exceptionally on the face of the female; although at this period it also appears on other parts in both sexes. *There are, therefore, conditions* of the system which control the production of the hair.

Again, when the sexual functions cease in the female, at the menopause, there is considerable tendency to growth of hair on the face; many observers have also noted the proneness to superfluous hair on the face of females much earlier in life, in connection with sexual disturbances from ovarian or uterine disease. Furthermore, when there is gross disturbance of the nervous system and mental faculties, as in insanity, there is a tendency to growth of hair on the faces of females, as many have testified. All these facts demonstrate that the development of larger hairs from lanugo hairs (which latter are found over almost the entire body surface, except on the palms and soles) depends on causes which may at one time or another come into action in the system.

When we turn to what is commonly known as hirsuties or hypertrichosis on the faces of young women in apparently good health, it must be acknowledged that the problem of causation is sometimes a difficult one; but, in the light of what has preceded, it would seem that there must be a cause, although medical skill and judgment may not in many instances fathom it. May it not be because we have not yet probed sufficiently into the real conditions of life and detected errors in nutrition and innervation which can have an influence in this direction?

In looking over our notes of hirsuties we find records, more or less complete, of 175 cases, and a careful study of these brings out considerable of interest in connection with the possible causation of the condition. In many instances the notes are naturally very brief, as they and all the notes hereafter referred to were made only in the routine of office practice to aid in caring for the individual, and mostly long before any thought was given to the special study of any possible etiologic relationship.

Something can be learned from the ages of the patients which are presented in the following table:

TABLE 1.—HIRSUTIES. FEMALES.

Age in years.	Single.	Married.	Total.
15 to 20	12	..	12
20 to 25	38	2	40
25 to 30	41	6	47
30 to 35	25	10	35
35 to 40	13	7	20
40 to 45	2	3	5
45 to 50	..	2	2
50 to 55	1	2	3
55 to 60	..	3	3
60 to 65	..	..	..
65 to 70	..	2	2
Not stated	3	3	6
Total	135	40	175

We notice that one-half of the cases occurred between the ages of 20 and 30 and were, therefore, not connected with puberty and the normal development of hair elsewhere in females, but at the time of the appearance of hair on the faces of males. We have already noted that it is well recognized that hair grows more readily on the faces of females with uterine and ovarian disease, and at the menopause, and the question arises whether sexual derangements may not play a larger part in the cases ordinarily met with than is commonly supposed.

Examining carefully the notes of the cases, we find that no record whatever as to the menstrual function was made in regard to 61 patients, leaving 114 to analyze. Of these the notes were made (often rather hurriedly) that the menses were regular and normal in 26 cases, or only 22.8 per cent., while in 88, or 77.2 per cent., there were recorded all possible forms and varieties of irregularities in the menstrual functions, in very many instances of a most distressing character. From what we know of the difficulty of obtaining accurate statements from patients (especially when they do not think that such a matter as menstruation would have any bearing on the trouble under consideration) it is more than probable that in a considerable share of the cases in which this function was recorded as normal there would be found a past or present history of sexual disturbances. In a number of the married females it was found that each was either sterile or had had but one child.

It has also been mentioned that in connection with the profound nervous and mental derangement which we call insanity hair was found to grow readily on the faces of females. Now, while there were *no instances* of this trouble among the cases under consideration, there were recorded disturbances of the nervous system in 31 cases. In several instances it was recorded that the growth of hair appeared after severe nervous prostration, also after profound exhaustion following the nursing or death of relatives, etc. In 27 cases there were also other cutaneous disorders requiring treatment.

It is a little interesting to note the localities affected by the hirsuties. The chin was the seat of the trouble in 119 cases, or 68 per cent. of the whole; in 49 instances it was confined to this location alone. In 74 cases the lip was the seat of the difficulty; in 32 instances here alone, and in 52 variously combined with other portions of the face and neck. The growth was on the cheeks in 39 cases, in 10 of them here alone.

The degree of hirsuties varied greatly in different cases, from a moderate downy condition to a most extensive and disfiguring heavy growth of stiff large hairs, over a greater or less area.

The local causes to which the excessive growth was attributed were also interesting. In quite a number of instances the condition present was ascribed to previous efforts at relief, and the use of the much advertised "Modena" was repeatedly mentioned as increasing the growth greatly. Many had used various depilatories, pumice stone, shaving, etc., all of which had stimulated a previously fine growth into one luxurious and strong. Very many had pulled out the hairs, in some instances for many years.

II. ALOPECIA.

Coming now to the opposite condition, namely, a failure in the proper activity of the hair follicles, leading to the various degrees of baldness, let us see if there are any facts which might lead us to suppose that there may be etiologic factors liable to be overlooked in ordinary cases.

Referring to our classification, we find that alopecia may be congenital or acquired. The former we will not dwell on, except to mention that in some of these cases there are undeveloped hair follicles, which later in life, even in childhood, may develop a more or less abundant crop of hair, when the life processes of the individual are equal to the task. We recognize, therefore, some failure in the nutritive or neurogenic activities of the system, for in these patients other kindred structures, the nails and teeth, often suffer as well; in some of the reported cases, however, a developmental error was at fault, as there was found microscopically an absence of hair follicles.

We next notice that acquired alopecia seems to be a more or less normal or natural accompaniment of advancing years, with its failure in nutrition and nerve energy. We are well aware that the researches of Pincus, Neumann, Michelson and others have shown atrophic changes in the scalp, with alterations of blood vessels, akin to those taking place in other portions of the senile tissues. But this only strengthens the argument that there are forces at work in the system leading to a diminution of nutritive and nerve supply to the hair, whereby its power of continued growth is hindered. The often striking exceptions to the rule of senile baldness only show that in certain instances the agencies which produce the hair have not been impaired.

Premature alopecia, which may occur at any time of life, is known to have a definite causation in certain cases. Thus, after erysipelas and fevers, notably after typhoid, there is often a great shedding of the hair, which regrows more or less quickly and with greater or less vigor, according to the recuperative powers of the system. In syphilis the hair is frequently lost, both in the well-known patchy manner in its early stages and also often later in the disease, both of which conditions yield more or less completely to proper constitutional treatment.

The hair follicle is but an involution of the epithelial covering of the skin, penetrating the corium, at the bottom of which the hair papilla rises from the corium, well supplied with nerves and blood vessels which furnish nutriment to the growing hair. The lowest part of the hair is large, soft and succulent, and it is only in the upper portion of the follicle and in the completed hair, as seen externally, that there is any tensile strength. The newly formed, soft and succulent cells in the deepest portion of the hair follicle are gradually changed in character, as the hair is pushed forward. The component cells, which were originally cylindrical and polyhedral in shape, become altered into spindle-shaped, nucleated cells, almost fibers, until, in the completed hair, they are firmly fused together into a firm, dense structure of considerable strength.

When there has been any agency or condition disturbing the nutrition of the hair, the lower cells fail to undergo the proper transformation just described, and, as they are pushed out by newly formed cells below, the portion of the hair within the follicle separates and the long hair is shed.

In the meantime, however, unless there has been too great a derangement of nutritive or nerve elements, the soft and succulent cells are still being produced around the papilla, and are pushed forward; but if they are yet unable to undergo a normal change into the fibrous structure of the complete hair there will be alopecia of greater or less degree. On close inspection we often find open follicles choked with imperfectly developed hair cells, and it only requires a resumption of the proper functions of the follicles to again produce hairs of proper size and length.

In course of time, however, as seen in the senile scalp, there may come a permanent alteration in the follicles, which then become sealed up, and no hair can possibly grow. In the ordinary falling of the hair, therefore, there is not, as the laity suppose, a complete loss of the hair, but only a shedding of the external portion, as in animals at certain seasons, while the real root from which new hair may grow remains still in the follicle, ready to reproduce healthy hair, if only the nutritive and neurogenic powers are in proper condition.

Applying what has preceded to the cases of ordinary baldness, let us see if any light can be thrown on them by a study of recorded data. In the accompanying table are given the age and sex each of 670 cases as observed in private practice.

TABLE 2—ALOPECIA.

Age in years	Males.	Females.	Total.
Under 5	5	3	8
10 to 15	11	1	12
15 to 20	52	29	81
20 to 25	65	63	128
25 to 30	91	68	159
30 to 35	76	38	114
35 to 40	50	19	69
40 to 45	30	16	46
45 to 50	20	4	24
50 to 55	12	1	13
55 to 60	5	5	10
60 and over	..	6	6
Total	417	253	670

It is well recognized that, in this country at least, males are more troubled with alopecia than females, 417 to 253, or 62 to 38 per cent. Later we may find some other causes, but I think that the general impression is correct, that this is in a considerable measure due to the head gear, the hard unyielding hat of the male causing pressure at the periphery of the head and interfering with the proper blood and nerve supply to the hair.

All ages are represented in this table, but most of the cases, over 60 per cent., were seen in patients between the ages of 20 and 35, the largest number being between 25 and 30 years. There are, of course, reasons why special attention should be paid to the matter just at this period of life, but a careful study of the recorded histories shows the existence of causes for the alopecia, which tend to be rather more pronounced at this time of life than in earlier or later years. It is to be regretted that the notes of cases were often rather scanty, but it must be realized that in the ordinary run of practice there is not always time to enter into such a careful study of the patients in all particulars as would be desirable to furnish material for an analysis such as this; but enough has been recorded to show very interesting facts bearing on the causation of alopecia.

All recognize that dermatitis seborrheica is a most fertile cause for the falling of the hair, and in a study of this disease by one of us[1] it was shown to be an important factor in over 63 per cent. of cases of alopecia. But it was also shown that, although it was recognized as due to a micro-organism practically omnipresent, dermatitis seborrheica was constantly dependent on general causes, which lowered the vitality of the tissues and rendered them suitable for the growth of the organism and thus enabled it to interfere with the nutrition of the hair.

It would be quite impossible, as well as unnecessary, to enter into and detail the various debilitating elements which have been observed and recorded in these cases, as antecedents to the loss of hair: but it may be interesting to note a few of them as illustrative of the line of thought and investigation to be pursued.

In 59 cases the trouble had followed typhoid fever, in 35 it had occurred after the exanthemata, and in 28 cases it came on after pregnancy. In 119 patients there had been a history of nervous derangement of varying severity, and in 117 there was general debility from many different causes. Thus, in 22 it followed an attack of grip, in 8 cases after pneumonia, in a number there had been recent Roman fever, appendicitis, peritonitis, malaria, surgical operations, etc., and a considerable number were associated with skin affections manifesting much debility.

The results of a proper tonic treatment, both on the general health and in the growth of hair, showed a not insignificant relation between the two. In 13 cases it was recorded as being syphilitic (although undoubtedly alopecia occurred very many times more frequently in this disease in which it was not noted) and in several instances patients who came solely on account of the loss of hair learned for the first time that they had constitutional syphilis.

In 153 cases no good cause for the alopecia was recorded, and in 22 instances it was ascribed to hereditary influence. In a number it was attributed to local causes, heat, heavy hats, excessive perspiration, etc., and in many the daily use of the shower bath was believed to be an important causative element.

We see, therefore, that careful investigation will often reveal a variety of causes which can readily operate against the life of the hair in a very considerable proportion of cases of alopecia. In regard to other cases in which no adequate cause can be determined, may it not often be from lack of proper attention and study, with discrimination and judgment as to etiologic data, for in the light of science there must be a cause for every effect?

III. CANITIES.

Following the same line of thought, we find that graying of the hair, or canities, is a process in Nature which must have a cause, although this is often most difficult to discover and overcome. In our classification we see that canities may be congenital or acquired, even as are the other conditions of the hair already discussed. We need not dwell on the congenital form, of which we know little; it is observed in albinos, and also occasionally in patches inherited through several generations.

Acquired grayness, as was remarked of alopecia, seems to be a more or less normal or natural accompaniment of advancing years, with its failure in nutrition and nerve energy; and, as in the case of alopecia, the exceptions only prove the rule. Premature canities is seen to embrace several well-recognized conditions, relating largely to nervous causation, and may occur suddenly or gradually.

Sudden blanching of the hair, in a single night, as in the historic instance of Marie Antoinette, and in the case of the sepoys in India, condemned to be blown to pieces from the guns, has been doubted, but so many other instances have been reported by reliable observers that there can be no question but that it may happen after most severe mental strain or shock. No satisfactory explanation of the mode of its occurrence has been made, but it is commonly accepted, from microscopic findings, that the change is effected by the entrance of air between the cells, due to some remarkable action within the hair follicle in response to neurogenic influence.

Gradual graying of the hair can certainly come prematurely from grief or from mental and nervous strain, as every one has observed; and in certain instances the hair has been known to resume its natural color under more favorable conditions of life. Partial graying of the hair is also not infrequent along nerve tracts affected by neuralgia, and on patches of leucoderma on the scalp and elsewhere. The new hairs formed in alopecia areata are also apt to be white, but in time assume a natural color, showing a possibility of change after the hair is formed.

We see, therefore, that, as in other disturbances of the hair, there are nutritive and neurogenic influences which induce a loss of color in a large share of instances. May it not be that in, what is perhaps wrongly called, idiopathic canities, there are disturbances of nutrition and innervation, less active and severe, which induce the change, and which may be discovered and removed by most careful medical skill, thus enabling the hair follicles to resume a normal action, even in regard to the coloration of the hair?

The ages of patients with premature canities are shown in the accompanying table; there were, of course, very many more who were treated for other affections in whom this condition existed, but in regard to whom it was not particularly noted.

TABLE 3.—CANITIES.

Age in years.	Male.	Female.	Total.
15 to 20	..	5	5
20 to 25	2	4	6
25 to 30	1	8	9
30 to 35	..	6	6
35 to 40	..	..	..
40 to 45	..	4	4
Total	3	27	30

The few cases of canities in which the patients have presented themselves for treatment do not throw much light on the subject, although in some instances there were points of considerable interest. In four cases there was a very clear history of nervous causes, and, although there was no instance of a very sudden change in color, it was observed to occur in them very soon after profound nervous strain, and in a considerable number it was associated with much general debility, once after a severe peritonitis. In one patient who came for the treatment of patches of very white hair, altering the appearance sadly, the condition was found to be due to leucoderma. In six of the cases the trouble appeared to be hereditary.

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[1] Bulkley: Dermatitis Seborrheica and Its Relations to Alopecia, etc., Medical Record, May 13, 1905.

IV. FRAGILITAS CRINIUM.

The next condition of the hair exhibiting nutritive or neurogenic disturbance is one which may often be recognized as symptomatic, coming during and after fevers and debilitating illness. It may also at times appear to be idiopathic, although close investigation can often discover a reasonable cause. It is frequently met with in patients coming under treatment for alopecia, also in many cases of dermatitis seborrheica. It consists in a weakness or fragility of the shaft of the hair, whereby it is easily broken off at any length, or split, either in its course or more commonly at the free end.

While the condition was observed in dozens or scores of instances in connection with other affections, there were relatively few cases recorded as such, the ages of the patients being shown in the next table.

TABLE 4.—Fragilitas Crinium.

Age in years.	Male.	Female.	Total.
3	..	1	1
8	..	2	2
15 to 20	1	7	8
20 to 25	..	2	2
25 to 30	..	1	1
30 to 35	..	5	5
45 to 50	..	1	1
Total	1	19	20

Little can be learned from these few cases, but the frequent occurrence of fragilitas crinium in connection with alopecia shows the that nutritive and neurogenic conditions which may lead to a premature shedding of the hair are such as may also induce a poorly developed structure, in which the component cells may have little tenacity. The same is true when the nutrition is interfered with by dermatitis seborrheica. But the fact of the splitting of the ends of the hair during and after fevers and great general debility shows that the hair is a live substance, modified by the conditions of nutrition and innervation, possibly in part through faulty action of the sebaceous glands surrounding the hair follicle.

One of our cases was that of a very nervous girl of 17, who since a child had consumed prodigious amounts of tea and coffee, many times daily, and even in the night. The hair over the entire scalp was broken off to an eighth of an inch in length; it had been thick and curly until about 5 years previous to her first visit. In an unmarried woman of 47 the hair on a strip about an inch wide in the front of the scalp broke off at about an inch in length, and, although of full size and apparently normal, remained thus short for some months. In a boy, aged 15, there suddenly appeared on the vertex a patch an inch in diameter, over which area the hairs were broken off to about a quarter of an inch in length. About the same time a little girl, aged 3, was seen who had a similar patch near the vertex. In both these cases the hairs were carefully examined microscopically, and there was certainly no trichophyton present in either.

V. TRICHORREXIS NODOSA.

This curious condition, now well known in dermatology, is closely allied to the former affection, but presents features which make it an independent disease. It is characterized by one or several small, grayish, node-like masses, generally toward the end of the shaft, at which the hair readily bends at a sharp angle, and at which it separates with slight traction, giving two brush-like extremities. Some writers speak of this as a very rare disease, seen usually in males, especially on the hairy face. In our experience it is not so very uncommon on the scalps of females in adult life, as shown in the following table, which by no means represents all the cases which have been casually observed:

TABLE 5.—Trichorrexis Nodosa.

Ages in years.	Males.	Females.	Total.
15 to 20	..	5	5
20 to 25	..	4	4
25 to 30	3	4	7
30 to 35	..	5	5
35 to 40	1	5	6
40 to 45	..	2	2
45 to 50	2	1	3
Total	6	26	32

But little is known in regard to the causation of this curious affection, and, while some have claimed it to be parasitic, the findings of different observers do not agree, and careful studies by other competent observers fail to demonstrate the uniform presence of any micro-organism. The rather brief records of these cases do not throw much light on the etiology of the trouble. In 26 cases the scalp was affected in women, and in 6 the bearded face in men. In 2 the mustache alone was affected, and in one instance the disease appeared also on the eyebrows and forearms.

In 14 females there were other affections of the skin, acne 5, alopecia 4, dermatitis seborrheica 2, psoriasis 2, and alopecia areata and severe eczema 1 each. The last mentioned was a most interesting case on account of the combination of diseases. It occurred in a married woman, with no children, aged 30 when first seen, and who, living in a distant city, was under observation off and on for twelve years. The alopecia areata, which ultimately involved about the entire scalp, was very characteristic in its sharply defined spots; it often yielded to treatment, only to recur again and again after very severe repeated nervous strain, accompanying various sicknesses and finally the death of father and mother. In addition to this, she had trichorrexis nodosa, with breaking of the long hairs, and later a most distressing eczema of the genital region. In a number of the other cases there was recorded a history of nervous strain, directly after which the trouble appeared.

From what has preceded in regard to the effect of disturbances of nutrition and innervation on the condition of the hair there is little doubt but that, for some as yet unexplained reason, the fibers of the hair become separated at particular localities, causing the swellings or nodes, and the ready fracture and brush-like ends of the hair follow as a natural sequence. Whether this is due to a sudden accumulation of air in the shaft, as has been suggested, can not now be determined; we recall that the alteration of the hair in canities, which may occur suddenly, is regarded as due to the presence of air. It is more likely that in both instances it is not actually air which is present, but some gaseous substance generated by the cells of the hair under abnormal nutritive or neurotic disturbance.

VI. ALOPECIA AREATA.

Having noted several entirely different alterations in the hair which may occur as a result of nutritive and neurotic disturbances, we are better prepared to understand alopecia areata, which often presents local and constitutional phenomena much resembling those observed in connection with the four last mentioned affections of the hair.

Alopecia areata is not a very common affection, but the bald, smooth, white patches are so striking that statistics probably present its relative frequency correctly, for all patients, rich or poor, seem equally sensitive about it. Among 15,240 miscellaneous cases of diseases of the skin seen in private practice, it occurred 202 times, forming 1.3 per cent. of the whole; and in an analysis of 10,000 public cases it formed only 0.06 per cent., it being not quite one-half as frequent among this class of patients. This disproportion would seem to point strongly against a parasitic cause, as claimed by some, and in favor of its arising from some disturbance of nutrition or innervation. The constant observation of a spontaneous disappearance of the trouble, even repeatedly, would also militate against a parasite theory, while its occasional appearance or recurrence after each great nerve strain or shock would support the constitutional theory of the nature of the disease. The very great rebelliousness of alopecia areata to local treatment alone, and its yielding to complete and perfect internal measures, even without local aid, would also indicate a constitutional rather than a local etiology.

Space forbids our entering further into the discussion of these matters, or bringing more proof of the nutritive and nervous bases of this affection, which nearly forty years' observation of it, by one of us, has confirmed. We will refer to the records of the private cases previously referred to.

TABLE 6.—ALOPECIA AREATA

Ages in years.	Male	Female.	Total.
5 to 10	10	5	15
10 to 15	16	5	21
15 to 20	8	10	18
20 to 25	15	12	27
25 to 30	14	9	23
30 to 35	18	14	32
35 to 40	14	8	22
40 to 45	12	9	21
45 to 50	3	5	8
50 to 55	7	4	11
55 to 60	2	..	2
65	..	1	1
66	..	1	1
Total	119	83	202

Alopecia areata is seen to affect males more frequently than females in the proportion almost of 60 to 40 per cent.

It is observed in almost all ages, though rarely before 5 or after 45 years of age, and in this series of cases it was found most frequently between the ages of 30 and 35. In three cases it had begun before the age of 5 years. In one case, an apparently healthy female child, who was seen when 4 years and 9 months old, the disease had begun at 3 months of age and had continued in spite of the best local treatment until seen. A little fine hair sometimes appeared and fell again, and there had been no material improvement. Under active treatment, dietary and medicinal, with few local measures, there was a very satisfactory growth, the bald areas being covered within four months.

While alopecia areata will sometimes disappear spontaneously or yield quickly to treatment, in many cases it is very persistent, as may be judged from the following table of cases where the previous duration was noted:

TABLE 7.—ALOPECIA AREATA.

Duration before applying for treatment.	No of cases.
Few days	5
Few weeks	14
1 month to 2 months	15
2 months to 3 months	11
3 months to 6 months	15
6 months to 8 months	18
8 months to 1 year	13
1 year to 2 years	16
2 years to 3 years	11
3 years to 4 years	12
5 years to 6 years	16
7 years to 8 years	7
9 years to 10 years	4
Total	157

In the limits of this paper it is impossible to enter fully into a study of these cases, many of which present most interesting points; but a few data may be given which strikingly illustrate the position taken as to its constitutional nature.

One patient, a man from another city, was first seen when 27 years of age, and observed off and on for nearly fifteen years. At 2 years of age the hair fell in spots, and in one or two years he had lost all the hair and eyebrows. He wore a wig until 15 or 16 years of age, being entirely bald, until, after staying a short time at Richfield Springs, the hair began to grow, and at 19 he had a full crop of hair and whiskers. These remained until he was 26 years old, when bald areas appeared in the beard and shortly in the scalp. These increased in size until at his first visit, nine months later, about one-quarter of the scalp and hairy part of the face was denuded. The disease progressed in spite of rather irregular treatment, until almost all the hair had left the head and face, including eyebrows and lashes, and also the body and limbs, including the pubes and axillæ. He had, occasionally, a slight growth of hair here and there, but when last seen he still wore a wig and had no eyebrows. He was never very diligent in treatment, and had many business vexations and also depressing nervous influences at home. There were five cases in which the alopecia had thus become total.

Among the cases analyzed there were 50 in which distinct neurologic conditions were recorded, besides 3 which directly followed trauma of the scalp. Very many cases could be cited in which the disease appeared after profound nervous strain or shock, as in the case of the woman mentioned under trichorrexis nodosa, and in some instances this recurred several times. In a number of cases alopecia areata was accompanied or preceded by considerable itching. In 151 cases the onset was very sudden, the area or areas being entirely bald when they were first noticed, and in 14 there was recorded a slow onset.

The location of the disease is interesting. In 116 cases the scalp alone was involved, in 8 instances only the bearded face, and once the eyebrows and lashes alone were removed by the disease. In 12 cases the face and scalp were affected and in 29 cases the face, scalp and body, while in 5 instances the alcopecia was total over the face, body and limbs, and in 7 other cases it was almost so. In 33 instances the patients had other skin affections, 19 had eczema, and 2 had leucoderma. In but a single instance were there two in a family affected, sisters, and in two cases it was recorded that the trouble was hereditary; in two cases record was made of the possible contagiousness of the affection, which was not proven.

VII. MONILITHRIX.

This curious and rare affection of the hair, of which we have seen but a single case, and of which there are not much more than 60 cases on record, has certain relations to the conditions already considered which make it interesting in this connection. The disease is characterized by a series of even, nodular or fusiform swellings, giving the hair an uneven or beaded appearance; the hair breaks at the constricted or atrophic portions, and not through the nodes, as is the case in trichorrexis nodosa.

Little or nothing is known in regard to the true pathology or causation of this curious affection of the hair, but all observers agree that the constrictions must be due to some defective development in the internodular portions, for what appear to be nodes or swellings are in reality only about the size of the other normal hairs. One observer suggests that the narrowing is due to an intermittent muscular contraction around the follicle just below where the sebaceous glands empty into it, where the young hair cells are still soft and readily compressed. It is, however, a disturbance in the hair due to defective nutrition or innervation, or both, as the idea of a parasitic cause is out of the question.

SUMMARY.

We find, then, that the hair is an active, live portion of the economy, subject to various alterations, dependent on its nutrition and innervation. The well-known changes which occur in the hairy coats of animals in ill health, and which have long been recognized as a valuable indication in regard to constitutional treatment, would seem to show that the same might also occur in man.

We have found that a certain activity of the hair follicles belongs to a particular period of life, puberty, and a waning of their powers seems to be a natural sign of advancing age. We have seen that in certain conditions of nutrition and innervation, as after fevers, etc., the hair follicles in some way take on different action, and various disturbances of the hair are observed, and that the effect of profound nervous or mental strain and shock can be evidenced in the hair.

Turning to clinical experience, we find that among 15,240 miscellaneous dermatologic cases in private practice a total of 1,129, or over 7 per cent., belonged to the group of affections of the hair now under consideration. An analysis of such notes as were kept of them presented many striking features illustrating the points considered in regard to nutritive and neurotic disturbances of the hair.

It is not claimed that anything very new or startling has been developed by this study, and some might even insist that all that has been mentioned is abundantly recognized by the profession. But, while in a measure this may be true theoretically, yet practically there is yet great need that the underlying principles be put more in practice; for it is the rarest occurrence to find that patients with the diseases which we have considered have ever previously been interrogated in regard to the matters which have been mentioned, much less that any serious and prolonged attempt has ever been made to rectify the very gross errors of life which have often been discovered.

In almost every instance, indeed, if a physician has been consulted at all, there has been only some local application given, while in the large majority of cases the trouble has been left to the hairdresser. It is true that the books state in a general way that attention should be directed to the state of the general health, etc., but, as stated, practically everything but the local condition is commonly ignored when these patients apply to the physician for aid.

It was our desire, by a careful study and analysis of a number of cases, to seek to ascertain some of the underlying causes of the affections of the hair here considered, in order that we might endeavor to place on a more substantial basis the principles which would lead to a more intelligent and successful treatment of the nutritive and neurotic disturbances of the hair.

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THE DIAGNOSIS OF PNEUMONIA IN INFANCY.*

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The diagnosis of pneumonia, the commonest of all winter diseases in infancy, is probably the cause of more error than that of any other disease and this error is largely due to the instruction ordinarily given by lectures and text-books concerning the characteristics of pneumonia in infancy. In an effort to make complete such description, portraying the different types, and differentiating between the lobar and lobular types, the whole matter, to my mind, is made obscure and more difficult for the student, although such complete descriptions are, of course, necessary in large works on pediatrics.

In the first place as to the difference between the lobar and lobular types in infancy. Occasionally a case will occur which does follow the adult lobar type, but such cases are rare, and the symptoms are not very different from those of the lobular type, the treatment is the same and there is no real necessity of any such differentiation in infancy. The most important fact and one which should be emphasized is that the pneumonia of infancy is a disease that should be recognized independently of signs ascertained by percussion or auscultation of the chest, such signs being valuable to corroborate the diagnosis and to locate the lesion. But the general picture of the disease is usually sufficient for an accurate diagnosis, and if one waits for the physical signs elicited by auscultation and percussion may have to wait until the patient is convalescent or never make a diagnosis in a really well-marked case.

This clinical picture of pneumonia in infancy has been set forth by Northrup, and it was my idea in this paper simply to emphasize the importance of recognizing it by the symptoms and to verify the diagnosis, if possible, by physical signs.

An infant with pneumonia, whether it be primary or secondary, suddenly becomes sick. The infant is dopy, indifferent or sleepy when a few hours previous it had been bright and active. It is noticed that the infant breathes much more rapidly, has a rise of temperature and usually that it develops a cough.

On taking the respiration and pulse accurately the relationship is apt to approximate 1 to 3, often going on to a ratio of 1 to 2, an ordinary observation being 50 to 150.

These five symptoms then: the sudden onset, depression, rapid respiration, fever and cough, are sufficient in many cases to create a suspicion of trouble with the lungs. In addition, another set of symptoms may be noted by observation. As soon as one looks at the infant, flaring nostrils are noted and usually the pneumonic type of breathing in which the ordinary type, consisting of an inspiration followed by an expiration and then a pause, is replaced by a type in which the inspiration is followed by a pause and the expiration accompanied by a pneumonic grunt indicating pain. Another sign occasionally elicited and very significant when present is rigidity of the neck and upper extremities, without rigidity of the lower extremities, this sign being due to a sore chest and an effort at protection.

These four signs—flaring nostrils, pneumonic breathing and expiratory grunt, and rigidity of the neck and upper extremities—are almost pathognomonic of the disease.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The signs we find in the chest simply serve to corroborate our diagnosis. The shower of crepitant râles at the end of inspiration, the most characteristic sign; the occasional but rare area of dulness on percussion with diminished breathing, indicating an initial congestion; the presence of a localized bronchitis; all of these are of value in confirmation.

CONCLUSIONS.

1. Pneumonia in infancy is a disease furnishing characteristic signs on which a diagnosis may be based before the lungs are examined.

2. The symptoms are sudden onset, depression, rapid respiration with ratio to pulse of 1 to 3, fever and usually cough. If with these are noticed flaring nostrils, pneumonic breathing and expiratory grunt, a definite diagnosis may be made, while rigidity of the neck and upper extremities without rigidity of the lower extremities is an important confirmatory sign if present.

3. Auscultation and percussion of the chest should be used in confirmation of the diagnosis and for localizing the lesion and for information as to its character.

205 West Fifty-seventh Street.

THE AMBULATORY TREATMENT OF PNEUMONIA IN INFANTS AND YOUNG CHILDREN.*

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It is not so long ago that a physician who advocated placing out of doors an infant with pneumonia was thought to be defending a crime which should never be forgiven. Rapid advances along medical lines are being made, and I consider the fresh-air treatment of pneumonia to be one of the greatest and most beneficial advances that therapeutics has made in the last decade.

In advocating the fresh-air treatment I do not mean to be an extremist, for the man who goes too far is making no more progress than the one who timidly does not go far enough. It is by one's personal experience, by one's own failures and successes, that one is taught, and it is by means of these personal observations that medical science is advanced. Little do I care for the heated and lengthy discussions elicited by the reading of extreme papers on a medical subject, for if these papers be the writers' own personal observations, the authors are certainly entitled to believe what they have seen. It is with personal observations that this paper deals.

The data of the cases of pneumonia on which this paper is based are taken from the records of 2,322 cases of illness occurring in the department for diseases of children of a very active dispensary in this city. Each case was personally examined and a careful record of it kept. The usual mortality from pneumonia, especially bronchopneumonia, is high, Holt giving it as 10 to 30 per cent. in private practice and 65 per cent. in institution work. This series of cases is rather small from which to draw conclusions, but nevertheless it demonstrates that cases treated in an ambulatory manner do present an exceedingly small mortality. In fact, I really was apprehensive of presenting these observations to you until I learned that many other men were having just as good results as my own, and I tell you frankly that some months ago I mentally remarked: "If I present this paper to a body of medical men, they will pronounce me either a candidate for the psychopathic ward, or a direct descendant of Ananias."

The ages of these patients ran from 2 months—the youngest—to 12 years—the oldest. There were many robust, well-nourished children among the number, as well as some feeble, anemic and poorly nourished patients. There were specimens of all nationalities. There were in all 36 patients—16 boys and 20 girls. There were 16 cases of lobar pneumonia and 20 cases of bronchopneumonia. These cases presented themselves in the stage of congestion and consolidation. There were bottle-fed infants and there were breast-fed infants. There were children whose diet was perfect, and there were children whose diet consisted of almost anything at any time. A case was not tabulated as pneumonia until absolutely positive signs of the disease, such as bronchial voice and respiration, presented themselves to establish a true and certain diagnosis. Some of these patients had high temperature, 104 to 106, while others had low temperature, from 100 to 102, and there were one or two patients who had a normal temperature all through the disease. There were cases with intense cerebral involvement, such as hyperesthesia and convulsions, and there were cases in which the baby seemed in every way normal, excepting some slight ailment, such as a cough or diarrhea. The majority of the patients were brought to the dispensary because the parents thought some other disease existed, such as diphtheria, diarrhea and "colds." There were many of these infants and children that did not look as though they had had any personal hygienic care for weeks, while others were clean and neatly clothed. Many of the parents were illiterate and uneducated, while others had a fair share of cerebral development, and it is to the first class of parents that I want to draw your attention. Although these people were of the poorer class, and the majority of them possessing little learning, they were all eager and willing to carry out directions as regards treatment and did it surprisingly well.

These observations are recited only to demonstrate that, given a baby with pneumonia, no matter what his parents are, and no matter what his present bodily condition, a great deal can be accomplished and good results obtained by systematic treatment.

The first point in the successful treatment of pneumonia is to make a correct and early diagnosis. This can be done only by the use of a stethoscope (or small phonendoscope) and by having the baby undressed. That means naked. There is no clinician living that can pick out a small spot of solidified lung by the use of his ear alone applied to the surface of an infant's chest. This has been demonstrated to me many times. The ear is too large and does not fit the surface evenly to exclude extraneous sounds. What, then, has been the mode of treatment of these cases of bronchopneumonia and lobar pneumonia which have presented themselves at the dispensary?

INSTRUCTIONS REGARDING HYGIENE.

Fresh Air.—The mother is told in as simple a way and in as few words as possible what we expect her to do to help her baby to get well. She is told that she must place the child in her largest room—in many cases the parlor; she is told that the windows must be kept open all the time; she is told why she must do this: because her baby is breathing so fast that it requires more air. In good weather many patients are placed, well covered and with hot-water bottles at their feet, out on the fire-escape for hours at a time during the day; and in the summer time these babies remain out of doors day and night. A flat nursing bottle makes an excellent hot-water bottle. No matter what the weather, the mother is told that she must bring her baby to the dispensary every other day, and in some instances every day. Many times I have seen these patients brought out in pouring rain and blowing snow storms, and I am certain that these children owe their lives to these doses of fresh air rather than to doses of thick, syrupy, nauseous medicines, had they received them.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Clothing.—The mother is told that she does her child harm by keeping it bundled with innumerable articles of clothing, especially while the baby is at home. The patient should wear a thin undershirt next its skin and a nightshirt over it. If the baby has no nightshirt, the mother is told to put a loose-fitting dress on her child. The parents are warned not to place too many or heavy covers over the baby and not to hold the patient in the arms so that the bodily heat of the mother will be added to the already high temperature of the baby. The patient is best in bed.

Food.—In all cases the food is weakened to at least one-half of the usual strength. In the case of a breast-fed baby the mother is instructed to give from half an ounce to two ounces of boiled water just before each nursing. In the case of older children the diet should consist of milk, gruels, cereals and broths. The mothers are told that their children must have their food at regular intervals, and that there is no cause for worry if the food is not always taken. All the fresh-boiled cool water is given the patients that they desire. A young child should have nourishment about every four hours. All directions are not only given the mother orally, but are written out on paper so that she will not forget them. I have found it convenient to have printed slips, one side of which is left blank for written directions for the individual case, while on the reverse side are printed general directions, etc., to aid the mother's memory. The following are the directions:

CASTOR OIL.—Wet the spoon before placing oil in it. Hold spoon filled with oil on a piece of ice until thoroughly cold; then give immediately. For older children give oil between two layers of orange juice in a wet glass. Nothing should be given to eat or drink an hour before or an hour after giving castor oil. Keep patient quiet.

MUSTARD POULTICE.—Use . . . part . . . ground mustard and . . . part . . . flour. Rub into a paste with a little warm water. Apply between layers of old linen, muslin, or cheesecloth. Prepare fresh each time.

BARLEY WATER.—Use . . . tablespoonful . . . barley flour. Rub into a smooth paste with a small amount of cold water. Then add one pint of boiling water. Cook half an hour, strain and add boiling water to make up to one pint. Add one rounded tablespoonful of granulated sugar. Add a little salt.

OATMEAL WATER.—Use three tablespoonfuls oatmeal to one quart cold water. Boil two hours, strain, and add boiling water to make up to one quart. Add one tablespoonful of granulated sugar to the quart. Add a little salt.

DEXTRINIZED BARLEY (or Oatmeal) GRUEL.—Prepare as for Barley water (or Oatmeal water). When cool enough to taste add half a teaspoonful of Cereo to the pint of gruel, and stir until mixed.

Reduction of Fever.—Fever is best controlled by sponging the entire body with tepid water every four hours. The baby is placed on a towel on a table, the clothing is removed, the sponging is done quickly and the skin wiped dry. Many a baby will immediately fall asleep after sponging and get a much needed rest. Fresh air and sponging are the only means that are of any value for the mother to employ in the reduction of bodily temperature. The parents are carefully instructed as to the minute details of sponging and are told that, should the baby be hot or restless, it should be sponged with tepid water every four hours.

Counter-Irritation.—Mustard poultices to the chest act as counter-irritants and afford an immense amount of relief in the stage of congestion and incipient consolidation. They are made of from one to four parts of flour to one part of ground mustard, according to the age of the patient. For very young babies a greater proportion of flour to mustard should be used. The poultice covers the affected side from spine to sternum, well up under the arm, and should cover the whole lung. These poultices should be applied between layers of linen, muslin or cheesecloth once in four hours and left on for from ten to twenty minutes at a time, just enough to redden the skin. They should be made fresh each time.

Drugs.—The public is fast becoming educated to the fact that it is not the miltiplicity of prescriptions that characterizes the best physician. The one drug, if you can call it such, that played an important part and almost the sole rôle in this series of cases, is castor oil. An initial dose of castor oil (one teaspoonful to an infant, two teaspoonfuls to an older child) was given each of these patients. If castor oil was vomited repeatedly, then one grain of calomel, in doses one-tenth of a grain every half hour, was substituted. I believe that the following method of giving castor oil should be thoroughly explained to every parent: Wet the spoon before placing oil in it. Hold spoon filled with oil on a piece of ice until thoroughly cold; then give immediately. For older children give oil between two layers of orange juice in a wet glass. Nothing should be given to eat or drink an hour before or an hour after giving castor oil. Keep the patient quiet.

An occasional dose of castor oil was given every third day to keep the gastrointestinal tract clean. For the accompanying tight distressing cough the following was given to all infants:

℞.	gm. or c.c.			
Tartar emetic		00065		
Ipecac		00065	or	āā gr. 1/100
Aqua	3	75		fl. ʒi

Sig.: One teaspoonful every two hours until six to eight doses have been given in twenty-four hours.

To the older children the following was given with excellent results:

℞.	*gm. or c.c.*			
Ammon. muriate		13		gr. ii
Ipecac		0013		gr. 1/50
			or	
Elixir simplex		60		m. x
Aqua	3	75		fl. ℥i

Sig.: One teaspoonful every two hours for six to eight doses in twenty-four hours.

The above two remedies seemed to make the patients more comfortable and were practically the only prescriptions given this series of cases. Heart stimulants were not used, because none of the patients needed them.

Rest.—To my mind, many a baby ill with pneumonia would have recovered if the all too-zealous attendants had had sense enough to *let him alone.* The mother should be told very clearly that it is not necessary continually to "do something" for a patient with pneumonia. If a child falls asleep she should let it sleep. Sleep is the most beneficial thing it can have. She should try not to bother a child more often than every two hours at most; better still, she should let it have four hours' repose at a time. She should try to have the sponging, medication, feeding, etc., come all at once, say at four-hour intervals, so that between times the patient is not bothered.

SUMMARY.

Treatment of both lobar pneumonia and bronchopneumonia in these dispensary cases consisted in giving an initial purge (castor oil or calomel); mustard poultice to the chest; sponging to reduce fever; cutting down diet to one-half strength; hygiene of body, clothing and sick-room, etc.; light expectorant every two hours for six to eight doses in twenty-four hours; keeping gastro-intestinal tract clear; abundance of fresh air; rest.

It must be borne in mind that the above treatment was employed in this series of dispensary cases and that it is with this class of cases only that we are here dealing.

What, then, have been the results in pursuing the above method of treatment? One patient died, but not until the mother insisted on taking her baby to a hospital; nevertheless I shall include it in my observations. This makes our mortality at the dispensary 2.77 per cent., which is remarkably low compared to that of many a private practice or hospital. We do not claim that it is our special form of treatment which produced this low death rate from this dreaded disease, for other workers are obtaining the same good results. But what this study does show, and demonstrates positively and conclusively, is that by a combination of simple instructions to parents, and quiet, rest, proper food, and, above all, fresh air for the child, the mortality of one of the most dreadful diseases of childhood can be reduced.

165 West Eighty-fifth Street.

DISCUSSION.

Dr. S. M. Hamill, Philadelphia: There are two sides to every question and I do not think that Dr. Kilmer gave the other side very much consideration. I think that in many instances the ambulatory treatment of pneumonia in children is most desirable, but, to say that the only thing to do is to treat pneumonia in the ambulatory service, is a mistake. A number of things must be taken into consideration. One must know something of the home surroundings. When the people live in a hovel and the parents are intemperate, to say that the ambulatory service is the best is ridiculous. Of course, the hospital offers conditions which are better in every way. Another thing to consider in the ambulatory treatment is the danger of exposure of the child to the contagious diseases so commonly met in dispensaries. For this reason, one of our first duties to the patient is to reduce the number of trips to the dispensary to the minimum. I am sure that I have had quite as good results in the hospital treatment of pneumonia by placing the patients in the open air, as Dr. Kilmer has had in his ambulatory service.

Dr. T. W. Kilmer, New York: I am afraid that Dr. Hamill misunderstood what I said. I did not make any statement that the ambulatory treatment is the only treatment. There are, however, patients brought to the dispensary that must be treated and if we treat them as we did in this instance we will get better results than we could from any other treatment. If Dr. Hamill can pick out thirty-six consecutive cases treated in a hospital ward and give a mortality of 2 per cent. I think it remarkable. We have babies that do come to the dispensary for treatment: this is the way we treat them, and the results are as I have stated.

THE SMEAR METHOD AS A MEANS OF THE RAPID DIAGNOSIS OF RABIES.

WITH A REPORT OF THIRTEEN CASES.

JAMES B. RUCKER, Jr., A.B., M.D.
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While in charge of the Laboratory of Bacteriology of the Indiana State Board of Health, in 1907, I had the opportunity of examining the brains of thirteen animals sent to the laboratory by health officers of the state. The disease from which these animals were suffering when they died or were killed was diagnosed by competent veterinarians or by physicians as hydrophobia or rabies.

In making the examinations my aim was to prove the presence or absence of Negri bodies and to note in what proportion of cases in which the bodies were found was the subdural inoculation of a rabbit or guinea-pig productive of the symptoms of rabies. My method for determining the presence of the bodies was the smear method as used and described by Williams and Lowden.[1] In the preparation of these smears the technic is as follows:

A small piece of the gray matter of the brain is excised and placed on a clean slide near one end. The cut in the brain should be at right angles to the surface, only a thin piece being taken, in order to avoid the white matter as much as possible. A clean cover glass is placed over the tissue and pressed down with the thumb until it is thinly spread out, and with even pressure the cover glass is drawn almost to the other end of the slide. A little practice in thus making the smears will result in a thin, even film of tissue being left on the slide almost its entire length.

The parts of the brain used for obtaining these bits of tissue were the cortex about the Rolandic region, the cerebellum and Ammon's horn. Two smears were made from each of these regions of the brain, and the smears were air dried. Two methods of staining were made use of in the search for the Negri bodies. In the first (Giemsa's solution[2]) the smear is at first fixed for five minutes in methyl alcohol. In staining the smears for determining the presence of Negri bodies, a solution is made from the Giemsa stain by adding one drop of Giemsa for each cubic centimeter of distilled water made alkaline previously by adding one drop of a 1 per cent. solution of potassium carbonate for each ten cubic centimeters of water.

This modified Giemsa solution is poured over the smear and allowed to remain on it for about three hours. The stain is then washed off in running water, and the preparation after being dried between layers of blotting paper is ready for examination. By this method the protoplasm of the Negri bodies takes the blue stain, while the central bodies and chromatoid granules take on a bluish-red or azure Usually the color assumed by the large central body is more intense than that of the smaller ones around the periphery. The cytoplasm of the nerve cells stains blue, but the definition of the bodies can usually be made out very distinctly within it The nuclei of the "bodies" appear red, while the nucleoli are blue. The red blood corpuscles are seen as small yellowish-pink discs.

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[1] "The Etiology and Diagnosis of Hydrophobia," Jour. of Infect. Diseases, May, 1909.

[2] The Giemsa stain is made thus: Azur II eosin, 3.0 gm.; Azur II, 0.8 gm.; Glycerin, c. p., 250 c.c.; Methyl alcohol, 250 c.c. Both glycerin and alcohol are heated to 60 C. The dyes are put into the alcohol, and the glycerin added slowly, the while stirring. The mixture stands over night at room temperature and is filtered before using.

Williams and Lowden suggest a shorter method of staining with the Giemsa solution: The smear is immersed in methyl alcohol for five minutes and then transferred to equal parts of distilled water and Giemsa solution for ten minutes. This is used for rapid diagnosis by them, but after having used both the longer and the shorter methods of staining with the Giemsa solution I find the longer one much to be preferred on account of the more marked clearness with which the central bodies and chromatoid granules stand out, allowing thereby a diagnosis to be made with more certainty, though not quite so rapidly as by the shorter method.

The second method of staining used by me in these cases of suspected rabies for determining the presence of the Negri bodies was a modification of the one suggested by Dr. Van Gieson, of the Research Laboratory of the New York Board of Health, and used by Williams and Lowden in their study on the Etiology of Rabies The smear is fixed while moist, in methyl alcohol for one minute, then the stain, consisting of 10 c c of distilled water, two drops of a saturated alcoholic solution of rosanilin violet and 20 c.c. of Loeffler's alkaline methylene blue, is applied and warmed until it steams Pour off the stain, wash in water and allow to dry in the air.

By this method the protoplasm of the "bodies" takes a decided red stain, the central bodies and chromatoid granules are a dark blue, nerve cells light blue, and the blood cells a pale pink. This staining mixture deteriorates after standing for an hour or so, wherefore it is necessary to freshly prepare it only as it is needed.

In examining these cases, six slides were made from each two from the cortex, two from Ammon's horn, and two from the cerebellum. Three—one from each region—were stained with the modified Giemsa solution, and to the remaining three Van Gieson's stain was applied

CASE 1 —S L M Brain of a dog, which had been found running wildly and snapping at anything which came in its way Killed by a pistol shot and its brain received at the laboratory Dec 5, 1906 Negri bodies were found in the smears by both the Giemsa and Van Gieson staining methods, but no animal inoculation was made A laboratory diagnosis of rabies was reported

CASE 2 —O E M Brain of dog, sent in Dec 29, 1906 No history Negri bodies found in smears stained by both methods Animal inoculated subdurally with a few drops of an emulsion from cortex and cerebellum in 0 6 per cent salt solution, but died the next day Positive diagnosis of rabies made

CASE 3 —L T R Brain, medulla, and cord of cow in 50 per cent glycerin sent in Jan 29, 1907 Cow had been supposedly suffering from rabies, being restless and irritable, taking no food for several days before she was killed A dog which had bitten this cow had been acting strangely for several days He was tied up and became very irritable, refusing all food, and finally died in convulsions Smears from brain, medulla and cord showed Negri bodies by both Geimsa and Van Gieson staining methods A guinea pig was inoculated subdurally with an emulsion from brain, medulla and cord, on Jan 29, 1907, and died on the evening of Feb 5, 1907 Negri bodies were found in smears from the brain of this guinea pig A positive diagnosis of hydrophobia was reported to the sender

CASE 4 —C G B Brain of dog sent Feb 12, 1907 No Negri bodies found in smears Guinea pig inoculated subdurally without result

CASE 5 —W R H Brain of dog, sent in March 8, 1907 Negri bodies found in the smears stained by both methods A guinea pig inoculated subdurally with a few drops of an emulsion of the brain in salt solution did not develop rabies and was still alive and well Sept 17, 1907 The sender stated that twenty eight days after he had received a positive diagnosis of rabies from the laboratory, fourteen hogs bitten by the dog developed hydrophobia and died Two cows and one other hog also bitten by the dog did not develop the disease The dog was very docile and a companion of the children After biting the hogs and cows the dog was confined, and when approached by any one, he would growl and snap At no time was frothing at the mouth observed, but for several days before he died he refused all food

CASE 6 —J F H Brain and cord of cat, sent in March 27, 1907 Cat had bitten a child and was killed and brain and cord sent to the laboratory No Negri bodies were found in the smears, and animal inoculation resulted negatively

CASE 7 —W J U Brain of dog, sent in April 1 1907 Negri bodies found in stained smears from the cortex and Ammon's horn, but not in cerebellum No animal inoculation made because no animal was available at the time A positive diagnosis of rabies was reported

CASE 8 —J L B Brain of dog, sent in April 18, 1907 Negri bodies found in all the smears A rabbit was inoculated subdurally but died the next day A positive diagnosis of rabies was reported, however In reply to my letter containing the report, the veterinarian stated that the dog had manifested all the symptoms of hydrophobia and had bitten two men and six dogs

CASE 9 —F A S Brain of dog, sent in April 18, 1907 Negri bodies found in all the smears Rabbit inoculated April 18, 1907, subdurally Took no food for three days previous to May 2, 1907, when it died

CASE 10 —W E R Brain of dog, sent in April 25 1907 No Negri bodies found in any of the smears Guinea pig inoculated subdurally April 25, 1907, died of rabies May 18 in its paralytic form—symptoms typical Negri bodies were found in abundance in the brain of the guinea pig

CASE 11 —A M K Brain of puppy, sent in June 29 1907 Negri bodies found in all smears Guinea pig inoculated subdurally, but died in two days without any symptoms which would indicate hydrophobia A child bitten in the face by this puppy did not develop hydrophobia A positive diagnosis of rabies was reported

CASE 12 —F A T Brain of dog, sent in Aug 2, 1907 No Negri bodies found in smears Guinea pig inoculated subdurally still alive Sept 17, 1907 A negative report was transmitted

CASE 13 —C D B Brain of dog, sent in Aug 29, 1907. Negri bodies found in all smears Guinea pig inoculated subdurally died September 20 Diagnosis of rabies was reported

In all cases proved by the biologic test to be rabies, Negri bodies were found in the smears In several cases Negri bodies were found in the brains of the animals which had been inoculated with an emulsion of the brain of the animal the diagnosis of whose disease was in question, and in the smears from whose brain Negri bodies were found

SUMMARY.

The smear method is preferable to all other methods because.

1 It is much simpler than any other, on account of the extreme facility with which the smears may be made and stained

2 It is much shorter than any other, inasmuch as the least possible time in which even a poor section could be made and stained is three hours, whereas the time

required by the smear method is from fifteen minutes to three hours.

3. In the smear method the Negri bodies appear very distinctly, and their minute structure is brought out very clearly.

4. The smear method is absolutely reliable.

256 South Fifty-sixth Street.

AN INFREQUENT TYPE OF OPTIC NERVE ATROPHY

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I am aware that my contribution to the subject of optic nerve atrophy can have but a limited application, and whatever practicability it possesses is clinical and therapeutic only. While the subject is fairly well understood, our knowledge pertains more to etiology and pathology than to therapeutics. Almost without exception inflammation and atrophy are secondary to some other affection, which either directly by pressure or extension of disease from neighboring parts, or indirectly, following general disturbances of the nervous system, toxemia, alterations in the constituents of the blood or other remote causes impedes circulation and prevents nutrition to the nerve. Rarely does the inflammation arise in, and confine itself to, the optic nerve and its intraocular expansion. The treatment of the optic nerve affections, therefore, is the treatment of the underlying disease. Speaking generally, the ophthalmoscopic findings decide whether the atrophy is a sequel to inflammation, hence more or less acute, or whether it has followed connective tissue increase and destruction of the nerve fiber—the old-fashioned "ascending and descending" atrophy. My purpose in this paper is to confine myself exclusively to atrophy of the optic nerve as a disease in itself and not apparently associated with and dependent on other affections of the nervous system or of other organs of the body.

ANATOMIC RELATIONS

The optic nerve may be divided arbitrarily for the purpose of clinical study into two sections: that between the chiasm and the optic foramen and that between the optic foramen and the eyeball. The former measures in the adult of average size from 7 to 11 mm. (¼ in. to 7/16 in.), and the latter from 23 to 30 mm. (⅞ in. to 1¼ in.), the entire nerve, from chiasm to globe averaging 35 mm. (1⅜ in.) in length. The intracranial portion of the nerve lies in the optic canal in the body of the sphenoid bone, and is said to be enveloped only by the pial sheath, since the other two sheaths after passing through the optic foramen become united with the two outer membranes of the brain. The optic canal contains only one other structure, the ophthalmic artery, given off from the internal carotid in close juxtaposition. Between the chiasm and optic foramen the optic nerve runs under the medial root of the olfactory nerve and is separated from it by the anterior cerebral artery. On the medial side it borders on the division between the hemispheres and on the lateral side it lies near the anterior perforated space.

It is important to remember, as a factor of no inconsiderable interest in the clinical study of optic atrophy, that no other cranial nerve lies in close enough proximity to become implicated by paralysis or inflammation by a morbid process that is confined to the optic nerve or its sheath, the third, fourth, the ophthalmic division of the fifth and the sixth nerves entering the orbit through the sphenoidal fissure. Its relation, however, to the sphenoidal sinuses and to the posterior ethmoidal sinuses is significant and throws light on the etiology of optic nerve affections. Professor Onodi, in his recent monograph (1907) on this subject, presents a series of photographs from original dissections which thoroughly explains this relation. He shows clearly how disease of the sinuses, directly by necrosis of the bony walls and extension of the disease through the openings thus made and involvement of the sheath of the nerve and indirectly by pressure from collections of pus or from a growth within the cavities, may affect the optic nerve. The walls of the sinuses are in some individuals exceedingly thin and yield readily to the tension of the contained material. The right sphenoidal sinus seems to be more often the cause of compression of the nerve and chiasm because of its slightly more intimate relation with them.

RELATION OF ACCESSORY SINUS DISEASE

From this brief resumé of the anatomic relations of the intracranial portion of the optic nerve it may be inferred that disease of the sphenoid and ethmoid sinuses may be ranked among the prominent causes of inflammation and atrophy. Sufficient stress, I believe, has not been laid either on the frequency or importance of this cause. Posey,[1] Arnold Knapp[2] and others have recently drawn attention to this causative connection and have insisted on the existence of accessory sinus disease despite the negative reports of laryngologists to whom their cases were referred for examination. It is doubtless impossible in the early stages of sinus disease for even the most expert examiners to detect its presence, but in the later stages the electric transilluminator is of great service. I wish here to repeat Posey's admonition that the ophthalmologist shall not be contented with the findings of one examination in cases which point to sinus disease as the cause of the optic nerve affection. In this connection Chance's case is of interest. He reports a case of presumed exostosis of the orbit which proved to be a bulging outward of the outer walls of the ethmoid cells due to an enormous collection of pus contained in the ethmoid and sphenoid sinuses and extending as far forward as the frontal sinus. There were no obstructions in the nasal or faucial passages, no discharge and no indication whatever that the sinuses were diseased. The optic discs were pale and the retinal veins were engorged.

As Bartels[3] has shown in his study of the pathology of blindness in orbital abscess, the optic nerve in purulent disease of the accessory sinuses may be affected by pressure, by extension of inflammation and by necrosis of the sheath and the fiber following impaired nutrition due to thrombosis of the small arteries and veins. First, then, in seeking for a cause the accessory sinuses should be examined thoroughly and repeatedly.

RELATION OF TERTIARY SYPHILIS

Excluding local causes, no other etiologic factor can be compared in frequency with tertiary syphilis of the

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] The Journal A. M. A., Feb. 2, 1907, 676.
[2] Arch. Ophth., January, 1908.
[3] Arch. Ophth., January, 1908.

structures surrounding the intracranial portion of the optic nerve. The lesions may involve the dura mater, the pia mater, the bones at the base of the skull, the blood vessels and the nerves themselves, and consist of chronic inflammation with exudation, gummatous infiltration, gumma and disease of the vessels. Uhthoff[4] believes that in most instances of intracranial optic neuritis the nerve was affected secondary to surrounding syphilitic lesions. "In Uhthoff's own observations (17 cases), as well as in 150 autopsies of cerebral syphilis reported by others and reviewed by him, the lesions of the optic nerve were but part of the lesions found at the base of the brain."

Gradle,[5] from whose paper I extract the above quotation, has reported 4 cases, and all of them are believed by him to be syphilitic. In my own 2 cases, to which I shall refer briefly later, one was due to acute disease of the accessory sinuses and the other to syphilis. In view of the prevalence of syphilis in the etiology, I think it would be proper to presume syphilis to be responsible, although there may be no tangible evidence of that disease. To depend on the patient's testimony or on the presence of other lesions pointing to syphilis, would be misleading. It must be remembered that intracranial optic neuritis belongs to the very latest manifestations and the patients may have been in ignorance of their earlier infection or purposely withhold a knowledge of it from the examiner.

According to Gradle, the symptoms are sufficiently marked to make the diagnosis reasonably certain. "Sudden diminution of sight without central scotoma and with nearly normal field, tendency toward recovery, but possibly ending in incomplete atrophy with absence of all other symptoms except initial headache, is the clinical picture of intracranial optic neuritis." He says the transient failure of sight in 3 of his cases can best be explained by the assumption of diffuse optic neuritis involving only the intracranial portion of the optic nerve and the clinical characteristics of this assumed lesion are consistent with our knowledge of the topography of the fibers in the intracranial trunk.

When, however, the cause is not syphilis, but disease of the accessory sinuses, the symptoms may vary from those described by Gradle. In Arnold Knapp's case the sight of the right eye had become suddenly affected. V. = 20/70; field: periphery normal, central relative scotoma of 5 degrees; left eye was normal. After relieving the posterior ethmoid cells of a large amount of pus, vision gradually returned and in seven weeks was normal. "A central scotoma always seems to be present if the case is examined early enough and the optic nerve lesion falls into the group of retrobulbar neuritis."

Case 1.—*History.*—X., a lad of 17, suddenly became partially blind after exposure. He had been driving all day in stormy weather and had become thoroughly chilled. After eating a hearty supper he lay down on the kitchen floor near a hot stove and slept all night. In the morning vision was reduced in each eye to the perception of large objects.

Examination.—The retinal arteries were greatly reduced in size and the papillæ pale. The veins were of normal caliber. He had a large central negative scotoma reducing the seeing field to a small area at the periphery. The cause was laid to intracranial optic neuritis from disease of the sphenoidal sinus, and this opinion was later verified.

Subsequent History.—Treatment was of no avail. The optic nerves became atrophic and a large patch of retinochorioidal atrophy developed corresponding to the scotoma, due probably, as Birch-Hirschfeld[6] has pointed out, to toxic action on the optic nerve fibers.

The ophthalmoscopic appearances of the disc vary from the signs of acute neuritis and retinal edema in the acute cases, to a fine almost imperceptible deeply seated paleness, and this variation seems to be independent of the cause. In Gradle's first case the discs were normal; in the second, the same, in the third, the same at first, but two years later "an unquestionable though very slight atrophy of the left optic nerve while the right papilla was suspiciously pale;" the fourth was healthy. In Knapp's case there was "pronounced neuroretinitis, with a radiating figure of white lines and dots about the macula."

In my first case the atrophy was well marked, and in the second there was apparently good retinal and nerve circulation, but really a slight but positive loss of vascularity in the nerve head. It seems that the diagnosis of affections of the intracranial portion of the optic nerve can not positively be determined by the ophthalmoscope, because its signs do not materially differ from those of atrophy from affections of other parts of the nerve. Yet a "suspicious paleness," remaining unchanged through months and attended with comparatively great loss of vision, points to the situation of the lesion in the intracranial portion. The pupillary symptoms are not significant. The size of the pupils and any difference between them may be accounted for, in uncomplicated cases, by the loss of vision and the difference in vision between the two eyes. Moreover, dilated or unequal pupils may be misleading because they may indicate a lesion farther back in the brain than the chiasm or an extensive disturbance of the nervous system. Pupillary inequalities are present in many different affections, both functional and organic, and are more significant of the gravity of the disease than of the locality of the lesion.

The same statement may be made concerning ocular muscle paralysis. Its presence indicates simply that the lesion is not limited strictly to the intracranial portion of the nerve, but has originated either some distance away or has extended from the canalis opticus backward from the chiasm, involving the fifth, fourth, third and sixth nerves, respectively, or forward into the sphenoidal fissure. Its absence would point to the limitation of the lesion between the anterior border of the chiasm and the foramen opticum. Headache is a common symptom. It is violent and almost continuous in sinus disease and paroxysmal in syphilis. It is not characteristic and does not differ essentially from the headache of refractive errors and many other cerebral and general affections.

Case 2.—*History.*—Mrs. J., aged 35, was infected by her husband with syphilis eight years ago. She received the usual treatment at the hands of an able and careful physician under whose care she remained for a number of years.

She considered herself well and for four years appeared to be so excepting for an occasional break-down due to a valvular heart lesion. In the spring of 1906 she consulted me on account of headache and failing vision of the right eye.

Examination.—R. V. = 20/50, L. V. = 20/30. Low hyperopia. Both optic discs were slightly pale with little noticeable difference between them, although the right was possibly a trifle paler, no limitation of either field for white, but concentric contraction for all colors. Urinary analysis showed a trace of albumin, no sugar, no casts.

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[4] von Graefe's Arch. f. Ophth., xxxix, 1.
[5] Arch. Ophth., March, 1907.
[6] von Graefe's Arch. f. Ophth., lxv, 3.

Treatment.—She was given inunctions of mercury, large doses of potassium iodid, hot baths and sweats, repeated every few weeks. In six months V. had fallen to R. 20/70, L. 20/50, the optic discs were unchanged in color, but the vessels of the retina showed signs of a mild degree of pressure, presumably exerted on the nerve. The veins were dilated and slightly tortuous, the arteries narrowed. The paleness of the discs was peculiar. At first glance the papillæ seemed to be entirely normal and of healthy color, but thorough inspection showed a deep seated loss of color. At this time the right eye began to diverge, from paresis of the third nerve, fusion of the images requiring a prism of 40 degrees. Central vision was the same, but the fields were limited for white as well as for colors. Vision slowly declined in the right until the spring of 1907, when it equaled only 20/250. In June she stated she had attacks of severe pain, lasting from 12 to 18 hours starting in both eyes and passing back to the occiput and cervical regions. V. R. = 5/200, L. = 20/50. January, 1908, she reported three attacks of pain in right temple with swelling of the soft tissues, attended with transient diminution of vision. At this time there was in the right eye a small central scotoma for red and green. Under treatment vision and fields were improved (R. = 20/100), the scotoma disappeared, but the diplopia remained unchanged. The pupils were equal and responsive throughout, and the patient never seriously suffered in her general health. During the two years of observation of this patient the ophthalmoscopic findings remained without appreciable variation. Even when the vision had sunk to 5/200 and the field for white was limited to a circle of 15 degrees around the fixation point the deep lying paleness of the disc had not increased, and again when vision recovered to 20/200 the color was unchanged.

I believe the process in this patient to be a neuritis of varying intensity affecting the intracranial portion of the optic nerve syphilitic in origin, basing the opinion on the absence of pupillary phenomena and of symptoms of general disturbance of the nervous system, the peculiar deep-seated paleness of the papillæ, the concentric limitation of the fields, the temporary scotoma and the unprogressiveness of the affection.

DISCUSSION

Dr. J. G. Huizinga, Grand Rapids, Mich.: I have now a case similar to the one described, the history of which is this: A year ago the patient first consulted me concerning a rapid diminution of vision. Examination of the fundus disclosed an inflammatory condition of the disc. I determined that this was due to ethmoiditis. Operation was declined by the patient until the vision depreciated to such extent that it was impossible for him to count fingers. Then he had an operation done and immediately his vision improved to the extent that he could tell a one dollar from a two dollar bill. He has had two operations on the ethmoid cells and one attempted on the frontal sinus which was absent. When the infection in the cells was worse the vision was worse; it was a very clear case. Whenever there was a clogging up of the ethmoid cells the patient's vision went down and when they were opened up and cleansed his vision improved. I have had him under observation trying to restore vision by vibratory massage and electricity, which I am trying out experimentally, but without results so far.

Dr. H. F. Hansell: The remark of Dr. Huizinga about the variation in vision calls attention to an important point in the diagnosis of these cases of intracranial disease with optic neuritis. In my own case that due to syphilis, vision varied from 20/30 to 5/200 and back again to 20/30. For the relief of the accessory sinus disease I refer to those more competent than I am. The case due to syphilis I treated in the usual way, by mercurial inunction and increasing doses of iodid of potassium and by sweat baths. I believe that the diaphoresis is valuable in enabling the patient to assimilate the mercury and iodid and that the combination of the three is the best treatment we have.

DIFFUSE INTERSTITIAL KERATITIS IN ACQUIRED SYPHILIS.*

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Interstitial keratitis, the result of acquired syphilis, is a rare disease, if we are to judge from the number of cases reported in literature, only about one hundred cases having been reported up to date: and judging from the number of cases reported in American literature it is an extremely rare disease, only about a dozen cases having been published. Furthermore, to emphasize the extreme rarity of the reports of such cases, I may state that, so far as I have been able to ascertain, the volumes of the transactions of the American Ophthalmological Society, published first in 1864 and continuously since then, do not contain the report of a single case presented to the society, and the same is true of *Knapp's Archives of Ophthalmology*, begun in 1869: the *American Journal of Ophthalmology*, begun in 1881; *Annals of Ophthalmology and Otology* (now the *Annals of Ophthalmology*), begun in 1892, and *Ophthalmology*, begun in 1906. Under the title of "Corneal Lesions in Acquired Syphilis," Dr. W. H. Wilder[1] has reported three such cases. The *Ophthalmic Record*, begun in 1891, has the original reports of two well authenticated cases, and of one doubtful case. Ellett,[2] Marlow,[3] and Hildrup[4] report these cases.

I have not taken into consideration the annular or disciform varieties of keratitis or other unusual forms of interstitial keratitis, confining myself strictly to the diffuse interstitial keratitis, as is so commonly seen in cases of inherited syphilis. The small number of published cases is remarkable when we remember that these are the leading ophthalmic journals in America, and also the great length of time covered by them. Not only is there a lack of original cases reported in these journals but, as would be expected under the circumstances, very rarely indeed is there an abstract of such cases from foreign literature. Why wonder, then, that some leading oculists doubt the existence of the disease at all from acquired syphilis.

When I presented my first case to the New York Ophthalmological Society, December, 1907, one of the oldest members of the Society, the late Dr. D. B. St. John Roosa, said he had never seen a single clear case of interstitial keratitis from acquired syphilis in his long practice of forty-eight years, either private or hospital; and in a personal letter to me subsequently, in support of his contention, he cited Hutchinson's classical memoir,[5] as follows: "Although I will not make so sweeping an assertion that interstitial keratitis never occurs excepting in the subjects of inherited taint, yet I can not conceal from myself, and have no wish to do *so from my reader, that such is my present belief.* It seems, moreover, improbable that a peculiar disease, remarkably well separated from all its congeners, both by its symptoms and its progress, should acknowledge a specific cause in nineteen instances, and in the twentieth present precisely the same phenomena in total independence of such origin. It is only fair, in passing, to ask of those who are inclined to test the accuracy of this opinion that care be taken in the diagnosis."

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] The Journal A. M. A., Dec. 21, 1901, xxxvii, 1669.

[2] Ophth. Rec., ix, 283.

[3] Ophth. Rec., xiii, 11.

[4] Ophth. Rec., xiv, 214.

[5] Ophth. Hosp. Rep., 1858, i, 251.

In looking over the literature on the subject, however, I find that Hutchinson had occasion to change his mind later. In his retiring address[6] from the presidency of the Ophthalmological Society of the United Kingdom, in commenting on a case of interstitial keratitis in acquired syphilis published by Mr. Morton,[7] he says: "So far as I know that case remains practically unique. I have seen a few doubtful and ill-marked parallels, but never one that could be properly placed by its side. Why keratitis should be so common in inherited syphilis, and so rare in the acquired disease is one of the pathological enigmas for which as yet we have no answer. Mr. Morton's case was not sent specially for his delectation; there are others like it if we could but find them, and to find them we want the help of the army of trained specialists now associated in this Society. Our volumes contain, so far as I know, no reference whatever to the occurrence of keratitis in acquired syphilis."

How near these words (spoken twenty-two years ago) come to describing accurately the condition now existing in American ophthalmic literature, is apparent from my opening remarks. Yet, we all know that interstitial keratitis from acquired syphilis is not extremely rare. If we would but look for such cases and report them, I am sure that many could be placed on record, and that is one of the obects of this paper, to direct attention to the importance of publishing such cases.

Callan, of New York, has reported several such cases verbally, although not publishing a single one. Several members of the New York Ophthalmological Society, in discussing the case shown by me, said they had seen anywhere from one to seven such cases in their own experience, yet not a single case have they thought worth while to report. Most of the present-day ophthalmic text-books (there are a few exceptions) speak of acquired syphilis as a cause of interstitial keratitis, but report no cases that I have been able to find. If I have overlooked cases, as undoubtedly I have, in my limited time to look up the literature on the subject, I trust that my confrères will be good enough to cite any they may know of. It is high time for some one to call attention to these hitherto neglected cases, and to urge the publication of the same, at least in sufficient numbers to remove doubt of the existence of such cases. I beg, therefore, to report two cases—the only two well-authenticated ones seen in my practice of sixteen years. Both of these cases were seen this winter, one, in fact, while engaged in writing this paper.

CASE 1.—*History.*—Mr. C. M. M., aged 27 years. This patient came to me Oct. 5, 1907, because of pain and failure of hearing in the right ear. He gave a history of having the drum punctured six months previously because of an acute abscess.

Examination.—I found the drum membrane somewhat congested, shrunken, and a scar in the lower and posterior quadrant. Hearing had been reduced to 7/40. Bone conduction was normal; hearing in the left ear normal, 40/40; bone conduction and air conduction normal. There was a chronic laryngitis. By inflating the ear and treating the throat, the pain in the ear was completely relieved in a few days. On November 30, about two months after consulting me concerning his ear, he consulted me because of an acute inflammation in each eye, more pronounced in the left. At this time he admitted the history of syphilis of one year's duration, and a report from his family doctor who treated him from the beginning confirms this. The patient had a primary chancre followed by secondary eruptions and sore throat; in fact, was under treatment by his family physician when he first came to me, but of which he made no mention.

Present Condition.—There are absolutely no indications of inherited syphilis at all. The teeth are perfect and there are no scars about the mouth or other marks of congenital syphilis of any kind. The man is robust in appearance.

Local Condition of Eyes.—For the last two weeks the patient has complained that the eyeballs have gotten red at night, burned, and that the light hurt him very much; tears also ran from the eyes. At the present time both eyes are inflamed, there is a marked circumcorneal injection in the left eye, and almost the entire cornea is covered with a grayish haze of a typical ground-glass appearance, and deep in the corneal surface can be seen a number of punctate spots, together with a few fine blood vessels. The right eye is affected very much in the same way as the left, but to a lesser extent. Vision in the right eye has been reduced to 20/30 and in the left eye to 20/50, although his vision, he tells me, was absolutely perfect before the present attack.

Treatment.—The patient was placed on atropin and hot water, locally, and the mixed treatment was pushed to the full limit. With the pupils well dilated under atropin, there were distinct changes in the chorioid to be observed far forward in each eye, and especially well marked in the left eye. After a few weeks' treatment the inflammation subsided rather rapidly, until the ground-glass appearance has almost disappeared.

March 7, 1908: The right eye is completely well, except for a slight circumcorneal injection; no infiltration of the cornea and no punctate spots remain. In the left eye all the gray haze has disappeared, together with most of the blood vessels, and but one very small punctate spot can be seen under the magnifying glass, and here and there a very fine blood vessel. The vision in the right eye was brought up to 20/20, and in the left eye to 20/40. There remains some congestion in the fundus of the left eye, and a few fine granular shreds floating in the vitreous.

CASE 2.—*History.*—Mr. G. B., aged 35 years. The patient consulted me first March 11, 1908 (consequently I have had him under observation about one week), with a history of his left eye being sore for the last two months, sensitive to light, running tears, and with rapid failure of vision in that eye. His family history is absolutely negative, in so far as can be obtained by me and by his family physician, the family physician assuring me there is no trace of syphilitic taint to be found in his family on either side. He is a married man and has a family. The first child died at the age of 8 months, the second child at the age of 6 months, the next two were miscarriages, and since then his wife has given birth to four healthy children, all now living.

He gives a history of a hard sore occurring on the penis three years ago. It was about two months in healing, but he denies any chance of infection except from his wife. Although there is this distinct history of the hard sore, there have been but few secondary symptoms. At the present time there is a slight enlargement of the glands in the neck and in the inguinal region. The man is robust in build, being about 5 feet 10 inches in height, and weighs about 190 pounds. He has absolutely none of the marks of congenital syphilis anywhere, and apparently is in perfect health.

Local Condition of the Eye.—The upper one-sixth of the left cornea is covered with the most pronounced salmon-patch I have ever seen; so deep, in fact, that it is almost liver-colored in appearance, while the rest of the cornea is completely covered with an intense grayish infiltrate. There is a slight circumcorneal injection, a very deep anterior chamber, and vision is reduced to counting fingers at six inches. It is as typical a case of diffuse interstitial keratitis as I have ever seen. The right eye is not affected; the vision is 20/40 without correction; the fundus appears to be normal. The fundus of the left eye could not be seen, because of the intense infiltration of the cornea. The patient gives a history of no other disease that would be likely to cause the present condition. There is no history of rheumatism, influenza, malaria, gout, etc. There is no previous history of an eye affection of any kind.

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[6] Tr. Ophth. Soc. U. Kingdom, 1886, vi, 517.
[7] Moorfield's Hosp. Jour., 1874.

Wandel,[8] who gives Fournier the credit of reporting the first case of this nature, reports a case himself and reviews the literature of forty-five cases.

It is rare, indeed, in these cases to have the salmon-patch. In fact, Trousseau says[9] that the salmon-patch never appears in these cases, and Mr. G. Anderson Critchett[10] said he had never been able to persuade himself that there was a true salmon-patch in the cases observed by him. In the case reported by Marlow,[3] the appearance of the cornea was very much like that presented in my second case, and I venture to give, very briefly, the case as reported by him.

A woman, aged about 30, was brought to him with a chancre of the conjunctiva in the lower retrotarsal fold of the right eye, with the preauricular and submaxillary glands enlarged on that side. He prescribed antispecific treatment, and did not see the patient again for ten years, when she presented herself with a typical interstitial keratitis in the right eye, the whole cornea being occupied by a diffuse patch of haze, while the upper part, perhaps 1/5, was covered by the characteristic salmon-patch of Hutchinson. The left eye was unaffected. The scar of the chancre was plainly visible at this time. She was not seen again.

Lange[11] also has reported a case of interstitial keratitis following a primary sore of the ocular *conjunctiva*.

Another very well authenticated case of interstitial keratitis, with the distinct salmon-patch, due to acquired syphilis, is reported by J. B. Lawford,[10] with four others, two of which were of doubtful authenticity. The particular one to which I refer is as follows:

Woman, aged 39 years. Her right eye was affected by diffuse interstitial keratitis. In the upper part the cornea was vascular and gray, and at the extreme upper edge was a very distinct salmon-patch. The pupil was active and dilated circularly under atropin. In the left eye nothing abnormal was found. There was no history of a previous eye affection. History as to syphilis was uncommonly definite. Thirteen years before she had prolonged affection of the throat, a skin eruption and loss of hair, and one year previous to coming under observation she had perforation of the hard palate. She brought to the hospital her young daughter, Violet H., aged 8, suffering from typical interstitial keratitis in both eyes. Her first child was living, aged 18. Five subsequent pregnancies resulted in stillbirths; then the daughter, Violet, and there are three younger children.

The patient was under observation four months, treatment being iodids and atropin. She was greatly improved. Mr. J. H. Herbert Fischer furnished the notes of this case for Mr. Lawford.

Mr. George Anderson Critchett, in discussing the case presented by Mr. Lawford, said he was glad to hear that a distinct salmon-patch had been met with in one case; that he had never been able to persuade himself that there was a true salmon-patch in any of his cases, though there was generally vascularity, but the opacity in the cases he had seen had not, as a rule, been so deep, so interstitial as in inherited cases. Mr. Griffith, in discussing the paper, mentioned the fact that Mr. Hutchinson had reported a case as a secondary manifestation in syphilis. He himself had seen four cases; in one of these the sight was lost—only the perception of light remaining, although he had given a favorable prognosis.

This point in regard to the loss of sight should be borne in mind by oculists in giving a favorable prognosis in these cases, although in most cases due to acquired syphilis the disease runs a much lighter and quicker course than in those of inherited syphilis.

Another interesting question has been brought up in connection with these cases, and that is whether it is possible for a man inheriting syphilis to acquire syphilis primarily himself, and the disease (interstitial keratitis) in this way be due to the inherited rather than the acquired taint. In this connection Fritz Mendel[12] reports the case of a young man whose mother was syphilitic, and who had suffered from this hereditary taint in the first year of his life, but acquired syphilis at the age of twenty-one, and had both eyes affected at this later date with a typical diffuse keratitis, which cleared up under free inunctions of mercury.

Mr. J. Herbert Fischer,[13] in a recent paper on some cases of interstitial keratitis from acquired syphilis, reports a number of cases. He expresses the opinion that interstitial keratitis from acquired syphilis is generally a tertiary manifestation; that it seems usually to attack only one eye, and that the infiltration frequently limits itself to a portion of the cornea only; that the keratitis, as far as it goes, is identical in clinical appearances to that due to the inherited disease, and that the statement made by Nuel, that it was usually secondary to iridochorioiditis, was by no means accepted universally. He also expressed surprise that more cases had not been reported. Mr. Sidney Stephenson, in discussing the paper, stated that about one hundred cases had been reported in literature, and that the average time of the development of interstitial keratitis after the primary affection was 10.8 years. He also thought that the unilateral location of the affection was due to treatment and that the bilateral cases occurred in the untreated cases. In a very recent communication, Mr. Stephenson,[14] states that nearly every case of interstitial keratitis is secondary to disease in the anterior part of the uveal tract. This opinion coincides with Nuel's.

It is interesting to note that this disease has been produced experimentally in the lower animals—rabbits, monkeys, etc.—by scrapings from lesions, chancres of the human being, and that the spirochetes had been found in such lesions. Mr. Sidney Stephenson also mentioned the fact that he and other observers, Stock, Peters, Römer and Babb, had found the spirochetes in congenital syphilis of the eye.

PATHOLOGY.

As to the pathology of the disease I shall say but little, except to quote briefly Mr. J. Herbert Parsons.[15] He says: "The cases of true interstitial keratitis, in the restricted clinical sense, which have been examined microscopically, are very few and are mostly complicated by other conditions which make it difficult to determine the anatomy of the disease. Even amongst the cases examined, a large proportion of those described as parenchymatous keratitis were undoubtedly tubercular. This raises the question of the true etiology of the disease. In England we are accustomed to lay the typical condition to syphilitic origin, and no satisfactory proof has been brought forward that this view is incorrect. . . . There is a difference of opinion as to the cases of true interstitial keratitis, V Michel and others distinguishing between a primary and a secondary keratitis. In the former, a triangular opacity appears at the margin of the cornea and gradually spreads over the whole area; it is often followed by iritis, keratitis, punctata, etc, and is ascribed by V. Michel to syphilitic affection of the marginal loops of the blood vessels The secondary form is distinguished by marked inflammation of the uveal tract, and often of the sclerotic, more particularly in the anterior part of the eye."

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[8] Wchnschr. f. Therap. u. Hyg. des Auges, December, 1903.

[9] Ann. d'ocul., 1895.

[10] Tr. Ophth. Soc. U. Kingdom, 1900, xx, 67.

[11] Tr. Ophth. Soc. U. Kingdom, 1892, xii, 74.

[12] Centrbl. f. Prakt. Augenh., January, 1901; Med. Press and Circ., December, 1907.

[13] Ophth. Soc. U. Kingdom, November, 1907; also Ophth. Rec. (London), Jan., 1908.

[14] Tr. Ophth. Soc. U. Kingdom, May 25, 1907.

[15] The Pathology of the Eye, i, 1, 191.

According to Stephenson, the cause of the keratitis is the deposit and multiplication in the cornea of the *Treponema pallidum* which comes from the uveal tract

DIFFERENTIAL DIAGNOSIS.

At times it is extremely difficult to say what is the true cause of diffuse interstitial keratitis. The tuberculous and the syphilitic forms are so nearly alike clinically that it is often impossible to distinguish between the two, and even difficult to arrive at a conclusive differentiation by microscopic examination. Bull[16] has classified the syphilitic affections of the cornea, due to acquired syphilis, into the following four classes:

(1) Diffuse parenchymatous, or interstitial keratitis

(2) True keratitis punctata, of Mauthner; which is exactly the same as Hock's specific punctate keratitis

(3) Keratitis punctata, with general clouding of the cornea.

(4) Gummatous keratitis.

It is well to bear in mind this classification, as it will be of service in arriving at a diagnosis and in classifying the cases

Von Hippel, Jr,[17] says: "The question as to whether there are certain subjective symptoms of the eye diseases that would prove the syphilitic or tuberculous character, has to be answered in the negative The limited vessels in the deeper strata of the cornea and the choroid, chorioiditic changes considered by Hirschberg as characteristic of lues are also found in the tuberculous form"

It is evident therefore, that we must depend chiefly on the clinical history of the case and the symptoms found when the patient presents himself and the effect of treatment on such symptoms, to arrive at a diagnosis, as it is seldom, indeed, that an opportunity is presented for a microscopic examination on such cases. I would suggest that Calmette's test might be of service in clearing up the diagnosis in these cases

CONCLUSIONS

1 Diffuse interstitial keratitis may occur as a result of acquired syphilis

2 It usually occurs as a late secondary sign of the disease or during relapses in the tertiary stage of the general disease Stephenson gives the average time of development of interstitial keratitis as 10.8 years after the primary sore Loewinson has reported one case as early as three weeks after the appearance of a primary sore, while Ellett reports a case appearing as late as twenty-three years after the infection

3 It almost invariably affects but one eye, although there are a few exceptions reported where both eyes were affected

4 It runs a quicker and lighter course, as a rule, than the cases due to inherited syphilis, and is rarely harmful to the sight. It should be remembered, however, that Griffith has reported one case in which the sight was entirely lost.

5. True salmon-patches occur but seldom in these cases.

6. It is difficult to make a clinical diagnosis between the syphilitic and the tuberculous forms of the disease, and even a differential pathologic diagnosis is not always conclusive

7 The prognosis is favorable, though it should be somewhat guarded from the fact that sight has been lost entirely in one case.

DISCUSSION

Dr J L Thompson Indianapolis I have had in thirty eight years at least a dozen of these cases, but never reported them, for I supposed that others had met with them also As a general thing there is a little plastic iritis with it and I have also found an inherited condition of this kind in inherited interstitial keratitis The only difference I know is that in the inherited disease years and years elapse before the opacity disappears, but in these other cases they will last three or four months and still leave a little opacity, just as in the case of the congenital disease I am astonished that there have not been more cases reported

Dr W H. Wilder, Chicago I had much the same impression as Dr. Davis when I reported three cases of this disease some years ago before this section at the meeting in St Paul Yet when I consulted the literature I found it rather sparse, and discussion elicited the fact that it is a rather rare condition I urged that we should look more carefully for the existence of acquired syphilis and not think that an interstitial keratitis is necessarily due to inherited disease, for it is no uncommon thing to find acquired syphilis in the very young I noticed that there was not that great tendency to vascularization of the cornea observed in keratitis due to inherited syphilis, nor the typical salmon patches, but sometimes there will be observed an appearance like sclerosing keratitis, so that we are not sure that it may not be a case of tuberculous origin In case of doubt therefore, not finding a well defined syphilitic history, one should make some kind of test to determine if tuberculosis might possibly be to blame for the condition

Dr Leartus Connor Detroit In one case which I have observed quite recently I was able to differentiate tuberculosis from syphilis by an examination which resulted in finding the spirochetes, now regarded as the specific element in syphilis

Dr A R Baker, Cleveland Before reading this paper I had imagined that this condition was more frequent I recall only one case in which I doubted that the condition was due to congenital syphilis In that case I got a history of what was supposed to be a soft chancre in a young man of 17 or 18 years, but he had had no treatment He came under my observation at the age of 29 with typical salmon patch and I treated it as chancre, yet a consultant that I had at the time thought that it was a case of tuberculous trouble and the question was left open Since then, however, the man married and had a child that developed interstitial keratitis, so I do not think that there was much doubt but that this case was one of acquired syphilis

Dr A E Davis, New York I think that there can be no question at all as to the origin of some of these cases because the disease has been produced in the lower animals by the scrapings from the human chancre, transferred to the animal and later the spirochetes have been found In my own cases I did not use the Calmette reaction because both eyes were affected in the first and in the second the patient did not remain under observation I mentioned in my paper that such a test would be of advantage in the differential diagnosis in such cases I think a man may have both inherited and acquired syphilis. One case has been reported where a child had congenital syphilis and at one year of age had interstitial keratitis, then later in life acquired syphilis and had a second attack of interstitial keratitis.

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[16] A System of Genito Urinary Diseases, Syphilology and Dermatology, Prince Morrow, vol ii p 550

[17] Twenty fourth Rep Ophth Cong, Heidelberg Aug 18, 1895

OPACIFICATION OF THE CORNEA FOLLOWING CATARACT EXTRACTION.*

VARD H. HULEN, A.M., M.D.
SAN FRANCISCO.

The following case is the only one I have seen among 209 cataract operations, and seems worth placing on record:

History.—D. D., male, aged 81 years, retired furrier, native of England, entered the University of California Hospital Aug. 23, 1907, to be operated on for hemorrhoids. He was recovering from a carbuncle and lumbago. The medical report of his physical examination gives the heart action as being intermittent and irregular, with systolic and diastolic murmurs; the result of the blood examination was not significant. Senile breathing, lungs negative, urine gave trace of albumin; yet all his life he had been considered a very well man. The recovery from the general anesthetic and operation was prompt and uneventful.

Examination.—The patient being practically blind, I examined his eyes September 6. An interesting ocular condition was found with an uncertain history. He stated that for three months after birth his eyes did not open, also that he had a congenital cataract in the left eye. (If the former were due to ophthalmia neonatorum the latter was probably an anterior polar cataract.) The vision of the right eye was good for all purposes until he was 45 years old, when, after a fall on his head, glasses for reading became necessary. Attention was not attracted to his eyes again until 1893, when he had an attack of pain in the right eye, accompanied by failing vision. But even before this he thinks his sight was not perfect. Two years later the vision had gradually failed until reading was no longer possible. About this time a competent oculist told him that there was a chalky degeneration of the left lens which irritated the right eye somewhat and advised extraction of the lens. Vision of the left eye had never changed.

Ten years ago an ophthalmic surgeon of national reputation operated on his left eye. A preliminary iridectomy was done, later the cataract was extracted without accident. Neither pain nor inflammation attended, but there was a turning in of the lashes. No vision was given by the operation.

Inspection revealed a spastic entropion of the right lower lid which was successfully controlled by repeated applications of collodion. For some conjunctival irritation due to the entropion a boric acid wash and the occasional use of argyrol were advised. Patient's general condition steadily improved. On September 20 he was transferred to my service in the hospital, and the following notes were made.

Status Præsens.—Left eye: Cornea rather thinly but entirely opaque, with patches of greater density, while the site of the corneal section, two millimeters from the limbus, is solidly white. The opacity appears to be in the stroma, but the epithelial covering is very irregular and steamy. The key-hole pupil is faintly visible. Tension normal; vision equals movement of hand in all directions. Right eye. Cornea clear and slightly anesthetic. Lens appears a dark amber color. The ophthalmoscope shows red reflex around the periphery of cataract when pupil is dilated. Tension normal. Vision equals perception of light; projection good.

Treatment.—I advised extraction of the cataract and performed the preliminary iridectomy on this date. Atropin instilled, bandage applied, rest in bed. No reaction whatever followed the operation, blood remaining in the anterior chamber after the cut of the iris promptly disappeared. Healing was normal and rapid. Pupil widely dilated; cornea perfectly clear; patient discharged.

October 17 he re-entered the hospital and was given the usual preparation. General condition and spirits decidedly improved. The right eye differed apparently in no wise from a normal cataractous one after an iridectomy, but owing to the history of the fellow eye unusual precautions were taken. October 18 operation was done with the patient in bed. A 4 per cent. solution of cocain was instilled three times, at intervals of five minutes. Section of two-fifths of limbus, raising small conjunctival flap above, from which was slight hemorrhage. Peripheric capsulotomy done with sharp cystotome; when the capsule was opened a small amount of clear fluid escaped. Speculum removed and the cataract, about two-thirds the size of an average lens, was expressed easily with the fingers. As a few flakes of soft lens matter remained in the pupil, the anterior chamber was gently irrigated with a special glass nozzle pipette, using a small quantity of a warm sterile physiologic salt solution. No further manipulation was required; there was no loss of vitreous or other mishap and even less than the usual traumatism. The patient behaved well and experienced no sensation during the operation. Atropin was instilled and a gauze bandage lightly applied over both eyes. Before closing the eye operated on, attention was called to the fact that the lips of the entire corneal wound were whitish.

After the lapse of twenty-four hours the eye was inspected though the patient had no discomfort. The wound was closed: anterior chamber fully restored; thickened capsule in pupil which was widely dilated; edges of coloboma free, but the entire upper half of the cornea was affected by the appearance of a well-marked typical "striped keratitis;" otherwise no evidences of reaction. At the end of the second day the striated appearance had extended the full width vertically across the cornea. Anterior chamber very deep; tension, —1. There were no subjective symptoms; no ciliary and but slight conjunctival injection; the wound was firmly closed. The bandage was left off and a light dressing was held in place by strips of silk plaster.

October 21, in addition to the striated opacities, the cornea was thinly and diffusely opaque, apparently due to changes deep in the substantia propria or endothelium. Pupil not distinctly seen, but was widely and evenly dilated.

October 27, the eye had remained entirely free from inflammatory reaction and the patient complained only of his lumbago. The general diffuse opacity had gradually increased, but was conspicuous only by focal illumination. The striated opacities seemed less marked and were broken so that a dark branching line about one millimeter wide appeared in the shape of a "Y," with the arms above extending to the extremities of the site of the corneal section and the thinner body reaching below within three millimeters of the limbus. Close inspection with oblique illumination revealed that the dark line did not mean entire transparency. The epithelium was undisturbed; the corneal surface was smooth and glistening. Tension normal; no subjective symptoms. Dionin and hot fomentations were commenced. General condition satisfactory.

November 2, as the eye seemed entirely well but for the corneal opacity, the patient was allowed to leave the hospital, with instructions to continue the dionin and hot applications, and to use atropin to keep the pupil dilated. He has been seen at intervals since, and at the last visit, March 8, the eye remained much the same. The striated opacities were still distinct and crossed irregularly by fine opaque lines, the "Y" appearance being but faintly defined. The deeper and diffuse opacification was less dense to the temporal side. The cornea was very slightly steamy. Vision 2/200. No change in tension, and had it not been for the corneal opacities the healing process could have been recorded as uneventful. Patient's health continued fair, appetite and nutrition good, but stayed in bed a great deal because of "misery in his back."

It is generally known that the use of a solution of bichlorid of mercury for irrigating the anterior chamber, as well as various accidents and complications, may be followed by corneal changes, nor would opacification be unexpected in a patient whose general condition and nutrition were undoubtedly bad. But in my case none of these elements entered into the causation, so far as can be determined. As it was impossible to obtain details from the first operator, I had thought it not unlikely that the opacification had been due to bichlorid, as that antiseptic was being used extensively about this period. Also there might have been some connection between the presence of the opacification and the section having been made far into the corneal tissue. And at this time, ten years before my operation, the patient's health was most excellent.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Had the cornea shown the slightest haziness following the preliminary iridectomy I should not have proceeded to extraction.

In the literature at my command only one or two text-books of ophthalmology mention general opacification following uncomplicated cataract extraction, and attribute it to the use of corrosive sublimate solution. So it seemed worth while to call attention to the subject. Hoping to make my paper of some value, the following questions were addressed to every member of the Section on Ophthalmology of the American Medical Association:

1. Have you had cases of general opacification of the cornea following cataract extraction; if so, how many (or if none) in what number of cataract operations?
2. To what cause or causes do you attribute its occurrence?
3. What appearance or forms did the opacity assume?
4. What part of the cornea seemed to be the seat of the lesion, and what the pathologic change?
5. To what extent did the opacity disappear, and how long before corneal changes ceased?
6. Kindly give separately the ultimate corrected vision in each case.
7. What preventive measures and curative treatment have you found of value?
8. What percentage of your cataract extractions has been followed by "striped keratitis"?
9. Have you ever seen striped keratitis fail to clear up so that the ultimate vision was affected by it; if so, what percentage did not clear completely?
10. Does your experience touch on any notable point outside your answers to the above questions?

To search case records for absolutely accurate replies was a task too laborious to be expected from any one, but I had hoped for a large number of approximate estimates of cataract extractions. This, with the data on corneal opacifications, should throw some light on an apparently obscure subject. However, I can not sufficiently express my appreciation for the generous and courteous responses made and regret that the limited space prevents my using more extensively the very valuable material gathered.

Out of the 227 heard from at this writing, 87 gave either the precise or estimated number of extractions, amounting to 19,821. From the figures given a conservative estimate of extractions by my correspondents would not be less than 50,000, and among these are only 39 cases of general opacification.

Concerning striated keratitis, there were great variations in statements. Sixteen correspondents reporting the exact number of cataract operations (the largest 397) aggregating 1,248 cases, had never seen this condition, while others gave large estimates, ranging from 50 to 100 per cent., depending, one says, on how closely we observe the condition of the cornea. The average of all answers is about 11 per cent. In my limited experience it has been about 3 per cent. and has always disappeared. Eleven reported cases of striped keratitis that affected the ultimate vision. One colleague wrote, "Ribben keratitis (Elschnig) or zonular keratitis (Salzmann) always heralds general bulbar degenerations," but I had reference to that well-known clinical appearance, commonly noted in case histories in a routine way by "striped keratitis present."

About 45 cases were reported as general opacification, but closer review determined that the process did not involve the entire area of the cornea. Distinct causes enumerated in all of these histories were identical with many of the known causes for the cases of complete opacifications. The pathologic conditions were probably similar, differing only in degree. One operator leaves the bandage on his myopic subjects twice the usual time. Another had frequently seen striped keratitis until he adopted the "open method" of treatment, but none since. Another of large experience states that since he had abandoned attempts at artificial ripening he had not seen a case of striped keratitis. And another advised, in cases of marked arteriosclerosis, to make the section in the limbus with a large conjunctival flap. Two interesting cases of partial opacification have been reported by Dr. Harold Bruns and one by Dr. H. Gradle.[1]

Following is a synopsis of the 39 cases reported of general (complete) opacification of the cornea.

Case 1.—Doubtful cause, syphilis. Specific treatment did no good.

Case 2.—Operations, 75. Causes given, senility and poor nutrition, blood count low. Ultimate vision, 5/200.

Case 3.—Operations, 150. Bichlorid getting into anterior chamber. Cleared up under atropin and alteratives. Vision, 15/50.

Case 4.—Alcoholism and debility. Cleared up about one-half.

Case 5.—Accidentally irrigated anterior chamber with bichlorid for saline solution. Ultimate vision, moving objects.

Case 6.—Operations, 100. "Infection," no treatment; cleared; vision, 20/50.

Case 7.—Cause doubtful unless incision too far in cornea. Vision, fingers 4 feet.

Case 8.—Operations, 21. Dislocated lens; general debility. Vision, fingers 2 feet.

Case 9.—Operations, 50. Section with poor knife. Corneal changes very similar to my case. Vision, fingers at one meter.

Case 10.—Caused by infection more than a week after operation. Leucocytic infiltration of substantia propria. Opacities permanent.

Case 11.—No cause. Partly cleared, dionin. Vision, 20/120 after five months.

Case 12.—In another's practice, due to bichlorid solution.

Case 13.—Operations, 200. Much lens matter left in anterior chamber produced irritation. Slight opacity only after three months. No treatment.

Case 14.—Operations, 100. Traumatism and possibly syphilis. Vision P. L.

Case 15.—Continued hemorrhage from "abnormal retinal vessel."

Cases 16 and 17.—Operations, 80 to 100. Caused by irrigation of anterior chamber (with what not stated), both cleared completely in two weeks, hot applications, atropin and dionin.

Case 18.—Operator of large experience. Patient in good health, aged 58 years. Perfectly smooth operation, simple extraction, no rational cause discovered. Rapid opacification of entire cornea, apparently in parenchyma. Under long continued subconjunctival injections it cleared up in a measure, but no useful vision was obtained.

Cases 19, 20, 21 and 22.—Operations, 1,000. La grippe followed on second day after operation. Very feeble patient. No cause known. Debility.

Case 23.—Operations, 20. Senile debility, age 83 years.

Case 24.—Operations, 400. Caused by using strong solution (4 per cent.) holocain in place of a 1 per cent. solution. Disappeared in four months. Used hot applications, atropin and dionin ointment, 5 to 10 per cent.

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[1] Ophth. Rec., 1905

CASE 25.—Striped keratitis, involving entire cornea, that never cleared. Patient in good health, age 79 years. No cause known.

CASES 26, 27 and 28.—Operations, 200. All said to be due to "lessened nutrition of cornea;" all cleared practically, he believes, after several months.

CASES 29, 30, 31, 32, 33 and 34.—"Many hundred operations." All due, he thinks, to lack of "constitutional vigor."

CASE 35.—Operations, 50. Caused by extensive (three-fifths of circumference of cornea) section and to action of bichlorid on endothelium. Vision, 20/200.

CASE 36.—Hypermature cataract. Great loss of vitreous. Vision, fingers three feet.

CASE 37.—Operations, 100. Caused by accidental introduction of alcohol into anterior chamber. Vision perception of light ultimately.

CASE 38.—Operations, 100. Cause, severe iridocyclitis. Vision, perception of light. As this is the only case in which the pathology given is based on the microscopic findings, it is a great satisfaction to copy the report in full: "The whole cornea looked like ground glass. There was a deep white change with no disturbance of the superficial epithelium, not the so-called ground glass dots, but a general white opacity. Sections of the eye showed that the endothelial lining was replaced by a mass of dense new connective tissue, possibly one-third as thick as the original cornea. This new tissue, I believe, was the result of the iridocyclitis—masses of organized exudate. The proper substance of the cornea was unchanged, and the epithelium was normal. My colleagues and myself looked on this case as one of general opacification of the cornea. The whole appearance justified the expectation that the microscope would reveal interstitial changes."

CASE 39.—My own.

One operator only out of the twenty-nine reporting cases could include the history of the other eye, also operated on for cataract with useful vision obtained, but lost two years later through infection, and emphasizes the rarity of my case in which the second eye, ten years later, almost paralleled the course of its fellow through its peculiar and unexplainable history of opacification.

CONCLUSIONS.

The deductions that I would make from my study of this subject are that treatment is of but little or no avail, and that there is no indication at present known which enables us to determine beforehand when general opacification of the cornea may follow cataract extraction. But with the warning from such a result in one eye, the cause undetermined, I should favor some method other than extraction for the remaining cataract, and would suggest this as one of the very few conditions where couching may be a justifiable operation.

DISCUSSION.

DR. J. L. THOMPSON, Indianapolis: During the grip epidemic a man of 75 came to me with what looked like a favorable case for operation, and we did have one of the smoothest imaginable, but two days afterward the patient had the grip There was no tendency to suppuration, but the cornea became entirely opaque, without any pain or anything of the kind, and the operation was a complete failure. I recall another case in a woman who suffered from stomach trouble and who had a very thin cornea. She was operated on and the case went exactly the same way. I also recall two doctors that were in the habit of drinking—taking something to keep the chills off in the morning, and then a little appetizer at noon, and in the evening a nightcap, and about sixteen during the day. One lost an eye. The other was able to write prescriptions afterward.

DR. D. W. GREENE, Dayton, Ohio: I have done over 1,000 operations on the lens in the past twenty-five years, largely in a class of men, veterans of the Civil War, many of whom were broken in health and subject to dissipations and vices of all kinds, more than 90 per cent. being now above 60 years of age, with an average age of 67.72. The number of extractions I have made among these men is large, and I have not seen a total opacity of the cornea result. In private practice I saw one case, ten or twelve years ago. This occurred in a portly German, more than 60 years old, who led a sedentary life, being a tailor, and who was a large consumer of beer. The operation had been free from accidents, and no other complications followed. I am not sure of the strength of bichlorid used, nor whether the section was large enough, and the knife keen and sharp, nor whether much pressure was used in delivering the lens; these seem to be important factors in the evolution of striped keratitis, the type of total opacity which Dr. Hulen has brought to our attention being an exaggeration of this condition.

It seems strange at first glance that total opacity of the cornea is not a more frequent result of extraction of cataract. If striped keratitis consists essentially in wrinkling and other damage to Descemet's membrane, at right angles to the line of incision, from the strong antiseptic solutions that have been used, or from excessive pressure in delivering the lens through an insufficient corneal incision, there are sufficient exciting causes. Not all cataract cases, however, have striped keratitis, and we know that many operators still continue to use strong antiseptic solutions and that the great tendency among operators is toward making too small a corneal incision, for easy delivery of the lens. Experience has satisfied me that this has done more to keep up the number of cases than anything else, except the inordinate pressure in delivery, which is necessary because of it. There is abundant evidence that the condition is not inflammatory but rather a nutritive or circulatory change in the canals of the posterior layers of the cornea. It lasts but a few days and is not painful. These are sufficient exciting causes, in the absence of a known predisposing cause. Permit me to cite the influence which arterial diseases, with or without high blood pressure, is believed to have in the circulation and nutrition of other parts of the eye and to ask why the same conditions may not apply to the circulation and nutrition of this part of the cornea, as are believed to obtain in glaucoma and perhaps in cataract as well.

I now have a case of extraction made two weeks ago, after a preliminary iridectomy, in a woman 67 years old, with B. P. 220 mm. Hg. The other eye had been lost by glaucoma after an extraction and subsequent discission, made by a competent operator. No strong antiseptic solution was used, the section was ample, and expression of the lens was easy in my operation, yet I saw on the third day that striped keratitis was present. An ominous opacity of the cornea still persists. [Note: Since this statement was made the cornea has cleared entirely.]

DR. H. V. WÜRDEMANN, Milwaukee: In over a thousand extractions and expressions I have had total opacity of the cornea follow but once, but within the last two years I have seen eight cases of striped opacity of the cornea, all following expression of the cataract in the capsule; and I think that this is due to the mechanical pressure of the instrument used in expressing the lens. When you do this operation you are stroking the lens through the cornea for anywhere from fifteen to twenty seconds to four or five minutes before the lens comes away. The mechanical injury to the cornea produces this condition of opacity. None of these cases has lasted more than two or three weeks after the extraction and all the patients have recovered with good visual acuity. I have also believed the condition to be due heretofore to strong antiseptics and some years ago to the use of cocain.

DR. G. C. SAVAGE, Nashville: In saying that "in selected conditions couching may be justifiable," of course Dr. Hulen must have meant that if one eye has been operated on and the cornea has become opaque, then couching is justifiable for the other eye. No man can know whether opacity is going to occur or not and couching is so unscientific and so dangerous that we all want to avoid it when we can. For a good many years I have made but little pressure on the cornea in expressing the lens and I never did make pressure anything like from two to five minutes, I am sure. But, it occurred to me some time ago to make just enough pressure on the cornea below to make the lens present itself in the incision and then with the cystotome transfix it from behind and lift it out without making any further pressure at all. My purpose was to avoid that occasional annoying occurrence, rupture of the hyaloid membrane and escape of vitreous. If you transfix the lens in this way there is no danger of rupture of the hyaloid membrane and if there is danger of producing corneal opacity by pressure in stroking the cornea this is avoided as well. Now I have had such cases, some getting well just as rapidly as Dr. Wurdemann has suggested. I believe that in dionin we have a solvent for lymph. I have seen it disappear rapidly under the effect of dionin when it had failed to disappear before dionin was used and I believe that if we use it immediately after we see the opacity forming the plasma will not become organized and if it does not become organized then permanent opacification is impossible. If we can absorb it before it is converted into connective tissue we prevent opacity. Atropin should be instilled first and then after a proper interval, five or ten minutes, the dionin should be instilled This can be done with the assurance that in recent cases corneal opacification will disappear under its influence

MR E TREACHER COLLINS, London, Eng: These cases of opacity of the cornea following operations on the eye, such as extraction of cataract or iridectomy for glaucoma, I have usually regarded as due to damage to the endothelium of Descemet's membrane We know that this epithelium prevents the infiltration of aqueous humor into the stroma of the cornea and that if it is damaged this filtration occurs and produces opacification of the cornea. The cases in which I have seen most opacity follow after extraction of cataract have been, as Dr. Wurdemann has mentioned, cases in which strong antiseptics have been used. In the early days of antiseptics, when I was house surgeon at Moorfield's Hospital, there was one surgeon who was so desirous of making everything antiseptic that he injected into the anterior chamber after extraction of the lens a solution of biniodid of mercury, 1 to 25,000, and in these cases there occurred marked opacity of the cornea I urged on my senior that the opacity was due to this, but he would not have it We decided to have a test case, he injected again and that case was the worst case of opacity I ever saw and it remained permanent This same operator, a very skilful man, and a pioneer in antiseptic surgery, used to like to use a drop of 1 to 20 carbolic acid on his keratome when he made the incision Some would trickle into the anterior chamber in the vicinity of the wound and in these cases I have frequently seen striped keratitis follow. One or two cases in which I have seen opacity occur have been where the keratome has been used for iridectomy in glaucoma. The operator was so anxious not to put the point into the lens that he pushed it into the back of the cornea instead and the point went through Descemet's membrane into the back of the cornea I have had an opportunity of examining microscopically an eye in which this has occurred and have lantern slides showing the gap in Descemet's membrane

DR. WILLIAM ZENTMAYER, Philadelphia I have had the privilege of seeing a case of this opacification in the practice of Dr. W F. Norris The patient was a man of 30, on whom a combined operation had been done on one eye, followed by the cornea becoming opaque, in order to avoid this occurrence in the other eye a preliminary iridectomy was made, which was followed by the same lesion, notwithstanding that a keratome was used and the incision was made at the limbus Thyroid extract was used without favorable result This case was particularly interesting because the man subsequently developed phthisis He died about three years subsequent to the loss of his sight. Whether the corneal condition was due to impaired nutrition at that time or whether he had uveitis as a result of his tuberculosis was not determined I know of one case of opacity following the use of Dr. White's bichlorid salve after cataract extraction It was not permanent, but extensive and annoying for a time It occurred in a case of ordinary senile cataract

DR. VARD H. HULEN, San Francisco There are certain definite causes that will produce opacification of the cornea, such for instance, as the use of strong antiseptics, or overenthusiasm in irrigating the anterior chamber, but there are also cases, as I am satisfied from my experience and the reports I have received, that are predisposed to opacity of the cornea following a perfectly simple, correct cataract extraction If you have that result in one eye, what are you going to do with the other eye? That is the point to which Dr. Savage referred in mentioning couching If you have that experience in one eye, with no complication to cause it, then you should not do an extraction in the other eye. If not an extraction, what? Dionin was used early in my case, beginning with a 5 per cent. solution and gradually increasing until the powder was being used and continued a number of weeks along with hot applications. The patient's general condition improved but the opacification was not affected at all. In regard to striped keratitis, I was struck with the reports I received as to the great variation in statements Some members of the section who have had much experience reported that they had never seen a case of striped keratitis That seemed most remarkable to me. Others made the statement that if one looked carefully enough he would find it in 100 per cent of cases There is no explanation, it seems to me, for this great variation in statements unless it is failure of careful inspection to bring the matter out.

THE SURGICAL TREATMENT OF ORBITAL COMPLICATIONS IN DISEASE OF THE NASAL ACCESSORY SINUSES.*

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The orbital complication referred to in this paper is the subperiosteal abscess. When disease of the nasal accessory sinuses extends to the orbit, the infection passes through the os planum of the ethmoid or through the floor of the frontal sinus. Two clinical pictures will be present, depending on whether the perforation occurs suddenly or gradually—acute or chronic. In the former, the local symptoms are those of an acute abscess with cullulitis. The orbital manifestations may disappear with intranasal treatment or else the pus works its way to the surface and discharges spontaneously. The acute symptoms may then abate, while the fistula either closes or remains open and a purulent sinus persists, leading into the frontal or ethmoidal cavities. In the second variety there is a greater or less defect in the orbital bony wall of the frontal and ethmoidal sinuses, and with the orbital periosteum a large abscess cavity is formed, causing marked exophthalmos which usually brings the patient to the eye clinic.

In children, the acute perforation takes place through the ethmoidal plate. A curved incision is made along the inner and upper orbital margin, the orbital periosteum and contents are retracted and the opening in the os planum can then be seen. This should be enlarged, and the adjoining cells curetted according to the amount of disease found present.

In the chronic cases with exophthalmos and in the other cases with acute perforation which do not improve on the restoration of intranasal drainage, the method of operating is as follows: It is a distinct advantage to remove the anterior half of the middle turbinate a day or two before the external operation, though this procedure is condemned by some; thus Killian claims that the virulence of the infection is thereby increased. I have never seen any ill effects from this preliminary operation.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty ninth Annual Session, held at Chicago, June 1908

Under morphin-ether narcosis, the external excision is made (Fig. 1) along the upper orbital border midway between the eyebrow and the bony orbital margin, then down along the inner wall and the side of the nose to the floor of the orbit. This incision in my opinion is preferable to the incision through the eyebrow (Killian) as it permits external drainage of the frontal sinus if this be found necessary without making another incision. I have not found that packing the nose with gauze or insertion of a postnasal plug is necessary. The periosteum is divided just at the orbital margin above and in line with the cutaneous incision along the nose. The periosteum is retracted with a rather sharp elevator. After the firm adhesion of the periosteum to the orbital margin is separated, the soft parts with the orbital contents and the lachrymal sac are gently detached and free access is given to the roof and to the inner wall of the orbit (Fig. 2).

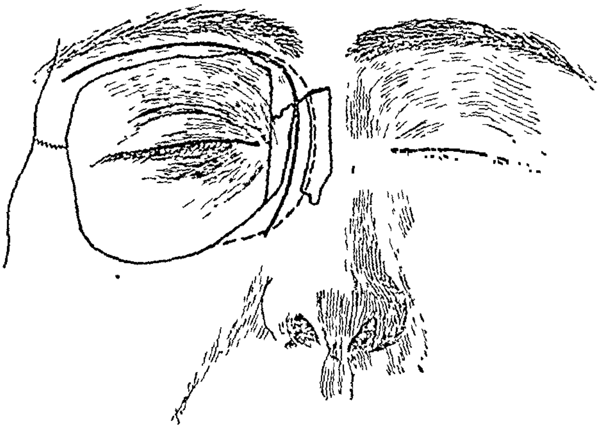

Fig 1.—Showing line of cutaneous incision and (interrupted line) the resection of bone.

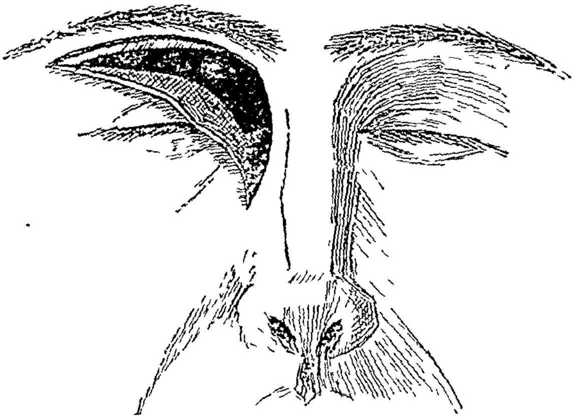

Fig 2.—Complete detachment of the orbital contents and removal of floor of frontal sinus and of internal orbital wall.

The pulley of the superior oblique is carefully detached from the trochlear fossa. It is important not to disturb the relation between the tendinous ring through which the tendon passes and the periosteum to which it is adherent; the periosteum later becomes attached in its normal position by the healing process and interference with the superior oblique muscle is avoided. This important relation can best be preserved by dislodging the pulley from the trochlear fossa by a blunt periosteotome working from behind forward. An examination of one hundred skulls has shown me that in four out of five the pulley is attached to merely a slight depression in the bone; in the remainder a well-developed spine directed straight down and occasionally slightly forward, was present just posterior to this fossa. It is evident that in the cases in which a spine is present the periosteum with the pulley can only be sparingly detached by following the above-described procedure.

The entire floor of the frontal sinus is then easily removed with the chisel and hammer, the diseased mucous membrane is curetted and the bony septa in the frontal sinus are carefully eradicated. A portion of the orbital margin can be removed without causing any deformity if the normal curve be preserved. The nasal process of the superior maxillary, the lachrymal bone and the ethmoidal os planum are then resected, giving broad access to the middle meatus of the nose and to the ethmoidal labyrinth. Work in this region is facilitated by suitable retractors for the orbital soft parts. The two which I use are a curved, shovel-shaped retractor and one shaped like a tongue depressor. The ethmoidal labyrinth is completely removed with the curette, Jansen's forceps or Hartmann's conchotome, remembering that the anterior ethmoidal foramen, which is a constant landmark, indicates the base of the skull and that as one proceeds back the ethmoid becomes broader laterally. The remaining part of the middle turbinate may now be removed and the sphenoidal cavity entered if necessary. The work is facilitated by introducing a finger well into the nose which serves as a guide and prevents some of the blood from running into the nose. The final curetting of the ethmoid is best done with the head low down and when the patient is partly revived. As broad an opening into the nose as possible is made, in addition to removing all disease, to insure proper drainage.

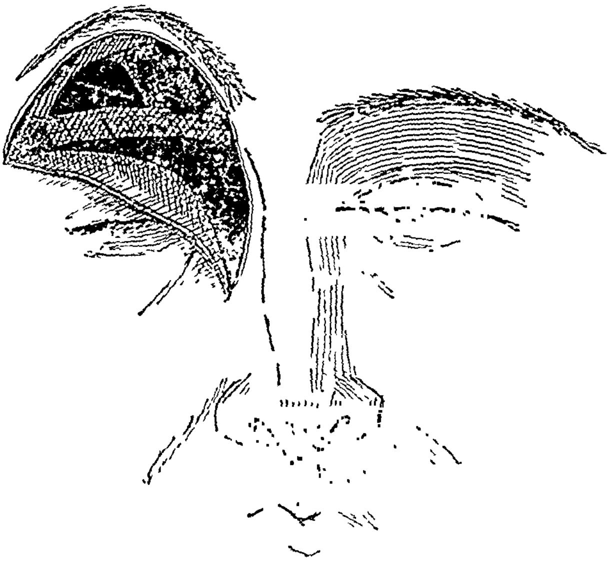

Fig. 3.—Partial resection of anterior wall in the cases in which the sinus extends high up.

If the frontal sinus extends unusually high up, as it is apt to near the median line, and the upper limit can not be curetted from below, the cutaneous flap with the eyebrow is forcibly retracted upward, a window is cut in the anterior bony wall similar to the Kuhnt and Killian methods (Fig. 3), leaving a broad bony supraorbital margin covered with periosteum; the purpose of this window is not to remove the greatest part of the anterior bony wall but should be only large enough to treat properly the upper parts of the cavity under direct inspection. Marked subsequent sinking in of the forehead can thus be prevented. The cutaneous wound is not sutured, the soft parts approximate of themselves, and a single wick of gauze is passed from without at the nasal angle into the frontal sinus. There is drainage not only into the nose but externally. Slight packing is introduced through the nose to the ethmoid region, if bleeding demands it; this is removed after twenty-four hours.

The patient occupies a partly upright position in bed. The external wound usually closes primarily. The small opening for the drain is left at the inner orbital angle for from seven to ten days. The nasal cavities are left undisturbed. In some cases diplopia is noted for a few days. This always disappears and all patients are carefully examined for diplopia with a colored glass and a candle, especially in the lower part of the field.

I have performed twenty-two operations according to this method which can be described as a modified combination of the Jansen and Kuhnt methods. In recent years, Killian's method has become deservedly popular. It has seemed to me, however, that the Killian operation has certain objections, at least for this class of cases. Thus it can be simplified if the trochlea be systematically dislodged. The entire floor of the frontal sinus can then be easily removed from below. In the healing process it is also of advantage if the entire bony floor is removed for then the cavity, especially at its outer part, has a better chance to obliterate. In many patients with broad access from below window resection of the anterior bony wall of the frontal sinus is not necessary unless the sinus is an unusually high one. This window does not need to include most of the anterior bony wall, but should be sufficiently large to permit thorough curetting of the uppermost limit of the frontal sinus. This is an improvement cosmetically. Complete removal of the ethmoidal structures is also facilitated when the orbital contents can be well retracted.

The elements of success in operations of this kind depend upon the use of a proper light (either with mirror or electric forehead reflector), the control of hemorrhage and a knowledge of anatomy. These should surely not deter the ophthalmic surgeon from continuing in the development of this important field where the first advances were made by members of our specialty.

26 West Fortieth Street.

DISCUSSION.

Dr. E. J. Bernstein, Kalamazoo: One of the important things about the operation is the cosmetic appearance, for, even though we cure our patients, save them much pain, or snatch them from death, if after recovery they are deformed they will be disappointed. Each will think of the deformity always and forget the benefit. Dr. Knapp's incision, it seems to me, produces a little more deformity than that of Killian. The incision that Killian makes directly through the eyebrow, leaves when cure takes place, absolutely no sign of deformity; you can not see the line of incision in two months. Through this incision you can displace the orbital contents just as well as when you make the incision, as I understand Dr. Knapp does. Killian's incision gives you the opportunity of displacing the contents of the orbit with perfect facility and after the wound has been closed by subcuticular sutures, there is absolutely no sign of a scar. In draining the sinus I have observed trouble in the temporal end of the sinus—the trouble appears in the complications that occur in the median. It does not seem to me necessary to displace the trochlea at all. I have been able with perfect facility to remove the whole floor of the sinus and clean out the whole cavity through this opening after displacing the orbital contents. The incision through the eyebrow produces no deformity. The nasal end of the incision leaving the eyebrow abruptly and coming well in the side of the nose, hardly more than a faint line is seen and this can be hidden by glasses.

Dr. William C. Posey, Philadelphia: While, of course, the extensive incision described by Dr. Knapp is necessary in some cases of involvement of the frontal and ethmoidal cells, especially when the mucous membrane lining the cavities has been converted into a thick pyogenetic membrane, a smaller incision will suffice in many instances and excellent drainage may be secured without the loss of so much bone. I have always thus far coaptated the flaps of the orbital incision with sutures and have maintained a drainage tube in position, from the orbit into the nose, for at least a week. Dr. Knapp's procedure for the safety of the pulley of the superior oblique is ingenious and I shall be glad to follow his directions. I have found the speculum of Axenfeld, used in the removal of the lachrymal sac, of great service in sinus operations. The essentials of success in the external operations on the sinuses are, in my experience, a thorough knowledge of the anatomy of the orbit and the accessory cavities, ample drainage into the nose from all the affected cells, or if the mucous membrane be greatly thickened and diseased, its complete removal by Killian's or other similar procedure. In my opinion, those who confine their practice to rhinology alone should be discouraged from attempting to open the sinuses externally, owing to lack of knowledge of the orbit and its contents, and to the danger of injury to the eye or its adnexa, such incisions being within the province of the ophthalmic surgeon alone.

Dr. A. E. Davis, New York: There is one of the accessory sinuses which Dr. Knapp did not mention at all; that is the antrum of Highmore. I have recently seen an eye lost by an operation in which a nasal surgeon tried to drain the antrum from the nose. He said that he had fractured the floor of the orbit by contre-coup, but he admitted that he had put the instrument in rather deeply. The orbit was infected and intense orbital cellulitis occurred with loss of the eye. There was marked choked disc, although perfect drainage from below. This sinus should be taken into consideration in considering these orbital infections. I think Dr. Knapp's incision most excellent and one of the most essential points of the operation. The deformity is practically nothing at all.

Dr. Arnold Knapp, New York: I thought it of advantage to have the incision somewhat below the eyebrow because in some cases we want to keep the wound open and we can drain better if the incision is not in the line of the eyebrow. I think that the detachment of the pulley is of great importance in order to get at the ethmoidal and deeper structures properly. This feature, and the complete removal of the inferior wall of the frontal sinus, make this method easier than Killian's operation. The complications, of course, are anomalies in the extent of the frontal sinus. When the frontal sinus extends high up and the apex is not accessible from below, Killian's window resection in the anterior wall must be performed. I limited my paper to this one condition purposely and avoided saying anything about the antrum of Highmore.

Holding Patients.—It is commonly observed that the so-called business getters are not business holders. Soon after beginning practice the writer was told by a practitioner of considerable experience that in ten years a physician in the city would have but few of the patients at the end of the decade who were with him at the beginning of the decade. This is a fact only with the business getters who are not business holders. Patients are held best by the man who is trustworthy. He who is honest with himself and his patients and is truly progressive is most successful.—*Leucocyte.*

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The corneal astigmatism, which is congenital in the vast majority of cases, may be determined accurately by the ophthalmometer of Javal and Schiotz. It may be stated in the beginning, however, that we have at present no accurate means of measuring the lens astigmatism, either as regards its quantity or its axis, but must depend on the subtraction of the corneal from the total astigmatism, as obtained by one of several methods.

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The experiments of Hensen and Voelckers[3] are in the highest degree convincing, as showing that a meridional contraction of the ciliary muscle is possible, whatever may be its action on the shape of the crystalline lens. They found that irritation of the ciliary nerves by an electric current was followed by contraction in only that part of the iris and ciliary muscle supplied by that nerve. They also introduced needles through the sclerotic and cornea, and observed by the tilting forward of the needles which ones were acted on when a certain ciliary nerve was stimulated, proving that the chorioid is drawn forward in accommodation. They observed in the same manner changes in the curvature of the lens, by placing the ends of the needles in contact with the anterior and posterior surfaces of the lens. This was demonstrated in living animals—dogs, cats and monkeys—and also on a freshly enucleated human eye. The point of application of the electric current in the animals was near the ophthalmic ganglion.

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SOME CLINICAL ASPECTS OF LENTICULAR ASTIGMATISM.*

EDGAR S. THOMSON, M.D.
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The subject of astigmatism has for its keynote the astigmatism of the lens. This is not only of interest from a scientific standpoint, but it is also of vital importance in the management of cases. It is not sufficient that we know the total astigmatism of an eye, unless we wish to prescribe glasses largely from the anatomic standpoint. In order to obtain a correct idea of the conditions present in each given case, we must separate the comparatively fixed quantity, the corneal astigmatism, from the fluctuating and uncertain one, the astigmatism of the lens. Leaving aside the differences in the corneal surfaces and the eccentricity of the visual axis, both of which quantities are so small as to be negligible from the clinical standpoint, the two broad facts to be determined are the amount of corneal astigmatism and the amount of lens astigmatism.

The corneal astigmatism, which is congenital in the vast majority of cases, may be determined accurately by the ophthalmometer of Javal and Schiotz. It may be stated in the beginning, however, that we have at present no accurate means of measuring the lens astigmatism, either as regards its quantity or its axis, but must depend on the subtraction of the corneal from the total astigmatism, as obtained by one of several methods.

VARIETIES OF LENS ASTIGMATISM.

Lens astigmatism may be either static or dynamic, and is probably far oftener the latter than the former. It would otherwise be difficult to explain the occurrence of so many cases of corneal astigmatism of low degree (0.5 diopter) accurately compensated by the lens, especially in hyperopic cases with a well-developed ciliary muscle, and it hardly seems logical to attribute the cause of this to static astigmatism when we consider how small the measured change must be. In support of this, we have the clinical fact that low degrees of corneal astigmatism in myopic cases are much less frequently compensated by the lens; that is, they frequently accept cylindric glasses entirely at variance with the ophthalmometric reading, and this we should expect, because the ciliary muscle is relatively weaker, and because accommodation has no effect in increasing the visual acuity in use of the eyes for distance vision.

We are more apt to find this variation in the lens astigmatism the higher the total myopia and the weaker the ciliary muscle. That there exists a primary static astigmatism of the lens can scarcely be doubted, but that it exists unchanged in many instances may be very much doubted. Donders[1] found in his own eye astigmatism produced by the tilting of the lens, and that this can occur must be acknowledged by those who have seen astigmatism produced by a partial luxation of the crystalline lens. Children frequently learn to overcome low degrees of astigmatism by tilting the head, and presumably tilting the lens in relaxation of the zonula during accommodation. It is also a matter of common experience to see a patient with spherical glasses overcome an astigmatism by looking obliquely through the lens. Aside from these exceptional cases, however, which usually have rather pronounced clinical features, dynamic lens astigmatism is, in all probability, most frequently caused by partial contraction of the ciliary muscle in the meridian of least refraction, allowing that meridian of the lens to become, within certain degrees, more convex.

If the tilting of the lens were a frequent cause of dynamic astigmatism, we should expect it to appear fully as frequently in presbyopes as in the young. Exactly the reverse is true. Astigmatism in presbyopia becomes manifest just as certain other errors do, unless, of course, we have a static astigmatism of the lens, and it is doubtful if dynamic astigmatism occurs at all after the age of 50.

Lens tilting argues an even higher individual development of control over the ciliary muscles, inasmuch as the mechanism by which it is produced must be the drawing forward of a certain set of ciliary fibers confined to a very small area. It is doubtful if this highly specialized action of the muscle exists frequently. Indeed, all the cases of lens tilting that have come under my observation have been, I believe, due primarily to the action of gravity in the twisted positions of the head which such patients assume.

Aside from the cases of lens tilting due to partial luxation of the lens, I have never seen a case where lens tilting seemed to occur during the distance test, these cases occurring only during accommodation at the near point.

Compensation by lens tilting must be extremely small, and is undoubtedly less in amount than compensation by partial contraction.

Partial contraction of the ciliary muscle was first pointed out by Dobrowolsky.[2] This view has been accepted by Landolt, Woinow, Pflüger, Mauthner, and others, while it has been opposed by no less distinguished observers than Hess, J. G. Bull, Sulzer, and Tscherning. The question is by no means settled, but it certainly seems as if the advocates of a dynamic lenticular astigmatism had a great deal in their favor, for the clinical facts and the voluntary control of the eye over astigmatism seems difficult to explain by any such fortuitous occurrence as dropping of the lens, tilting of the lens on the axis, or any of the other changes in the lens causing astigmatism, which, while they undoubtedly occur and have been demonstrated, certainly can not be the cause in the majority of cases.

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The subjective tests with the trial lenses I believe to be perhaps the most important in our list, when based on our other measurements, and the technic of applying them is very important. It hardly seems necessary at the present time to go into details on this point, but I may say that the "fogging" method has been generally unsatisfactory in my hands, and I much prefer to test with cylindrical lenses in the axis of the corneal astigmatism, gradually increasing the strength of the lenses and adding only the required spherical lens to bring the visual acuity to the point where finer changes are more noticeable to the patient. I then vary the axis to find any modifications that may exist; if I am unable to find the correction which gives relief, I use a mydriatic and obtain a reading of the total error.

The actual lens prescribed depends on the judgment of the various questions above mentioned, taken in connection with the general muscular constitution (as bearing directly on the constitution of the ciliary muscle), the needs of the individual, and the existence of any local complications—as strabismus, heterophoria, etc., which need not be considered here. I do not underestimate the value of the ophthalmoscope in the treatment of refractive errors, but its bearing in the present question is only to give a close approximation to the total spherical error, which, of course, we must know, and it is of little value in the actual determination of the amount of astigmatism.

To obtain the lens astigmatism, we subtract the corneal astigmatism from the total, as obtained by either of the above mentioned methods. The proper appreciation of the true cause of the lens astigmatism and of the factors producing the visual disturbance will depend not so much on mere figures as on the clinical conditions bearing on the case. To particularize, it is necessary to take up *seriatim* the different forms of astigmatism:

HYPEROPIC ASTIGMATISM.

The majority of cases of hyperopic astigmatism will fall under one of the following general classes:

1. *Low Degrees of Corneal Astigmatism, Completely Compensated by the Lens, Axis 90° or Thereabouts.*

These cases occur at any age, give no symptoms, and accept no cylindrical glasses with or without a mydriatic, and have normal vision with a corneal astigmatism of not more than one diopter, usual axis 90°, symmetrical in the two eyes. They form the largest class of cases. We see them only incidentally, in the course of treatment of other eye conditions—inflammations or presbyopia—and, of course, they require no correction. The compensating astigmatism of the lens is static, whatever it may have been originally. My own feeling is that a large proportion of such cases, perhaps the great majority, begin as dynamic lens astigmatism, and that the efforts of the ciliary muscle are purposeful, and ultimately lead to full correction without the aid of cylindrical glasses.

2. *Higher Degrees of Corneal Astigmatism, with Partial Regular Compensation by the Lens, Axis 90° or Thereabouts.*

Under this heading we have the largest class of cases coming to us for treatment. The lens astigmatism occurs in the same axis—or very nearly the same axis—as the corneal astigmatism, and amounts to between 0.50 and 1 diopter. It is for this reason that we have the arbitrary rule of subtracting 0.50 diopter from the reading of the ophthalmometer in prescribing lenses, a rule which seems unfortunate as leading to a certain amount of misapprehension, though, in fact, our other tests usually give us approximately this result.

These cases, almost without exception, have a diminution of the visual acuity for distance (the amount depending on the degree of astigmatism) with asthenopia. Even small amounts of astigmatism are not properly to be called latent, though the meridional contraction occurs only at intervals when the patient is looking at the test card, and in most instances need not occur at all if the cylinders are carefully tried. By subtracting the total astigmatism (manifest with the trial lenses) from the corneal we have the lens astigmatism, and whether this be static or dynamic will depend on the severity of the asthenopia, the age of the patient, the length of time that the eyes have gone uncorrected, and the general muscular constitution of the individual.

After the age of 35 the compensating astigmatism is almost invariably static, and we may see even high degrees of compensation at this time; that is, 1.50 to 2 diopters, where glasses have never been worn and where the muscles have been allowed to develop gradually without undue forcing. In such cases, even under the influence of a mydriatic, the manifest astigmatism is not increased. Before 35, or thereabouts, the judgment of the character of the lens astigmatism is more difficult, and I have come to depend to a great extent on the finding of tender spots over the ciliary region, frequently in the meridian of contraction, when a dynamic astigmatism exists. If I find these tender spots, I suspect the astigmatism to be latent or dynamic, and I prescribe a mydriatic, both for accuracy in obtaining the test and for its physiologic action on the contracted fibers of the ciliary muscle. In most instances, the astigmatism will be found to be dynamic and needing partial or total correction, depending on the clinical features of the particular case, i. e., the amount of use of the eyes, the length of time since glasses have been worn, the age of the patient, and the general muscular constitution. One should be very careful in this connection not to overcorrect, for overcorrection is productive of much more irritation than undercorrection. Where no irritation of the ciliary muscle can be discovered, it seems unnecessary to use a mydriatic, and in practice I do not find that I am led into error through this line of procedure.

3. *Low Degrees of Corneal Astigmatism with Irregular Compensation by the Lens.*

This class is composed almost entirely of cases in which the corneal astigmatism is less than 0.75 diopter. It occurs most frequently in cases where the corneal astigmatism is not symmetrical; that is, one cornea may have a 0.50 diopter of astigmatism, the other none. In such cases the axis of the total manifest astigmatism represents a mean between the cornea and the lens, whose astigmatism, either from its original static condition or through faulty accommodative efforts, lies in an entirely different axis from the corneal. Such cases are much prone to vary. The astigmatism will appear and disappear, the axes will change from time to time, even where we use a mydriatic and endeavor to put them on more permanent bases.

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In these cases, as in the former, I do not use a mydriatic, unless I have evidence of muscular cramp, as shown by tender spots over the ciliary muscle. I prefer to correct the manifest astigmatism after not less than two careful tests with the trial lenses. Unless there is a definite indication that the distance vision is accomplished through irritating accommodative effort, I prescribe the glasses only for the near work, and I often find that under this form of treatment the ciliary muscle adjusts itself, compensation is regained, and the glasses may be laid aside.

In this class of cases we frequently see the results of coordinated effort in the ciliary muscles of the two eyes; that is, where we have no corneal astigmatism in one eye and 0.50 diopter, axis 90° in the other eye, the same meridians will contract to such a degree that our final astigmatism will read axis 180° in each eye—say 0.50 diopter, axis 180°, in one eye, and 1 diopter, axis 180°, in the other eye, with 0.50 diopter or corneal astigmatism, axis 90°. In other words, the compensation in the eye with the 0.50 diopter of corneal astigmatism has overshot the mark and given us an excessive lens astigmatism.

4. *Corneal Astigmatism with the Axis at 180° or Thereabouts.*

In this class of cases, as is well known, the symptoms are very much more severe, compensation is much less apt to occur, and the lens astigmatism is frequently in excess of the corneal. Here we frequently find the lens astigmatism to be static, and the correction must be worn constantly. The reason for the increased difficulty of compensation in this class of cases over the preceding class is naturally to be looked for in a greater normal tonicity of certain fibers of the ciliary muscle over certain others, but so far we have no anatomic investigations to help us out on this point.

5. *Cases of Simple Lens Astigmatism.*

In these cases the cornea shows no astigmatism, and the astigmatism is confined to the lens. It may be as high as a diopter, is accompanied by severe symptoms, and occurs most frequently below the presbyopic age. It is very desirable to use mydriasis in these cases, where even a small amount of muscular tenderness exists, as there is every evidence that the lens astigmatism is most frequently due to faulty ciliary contraction, and that if we keep our correcting lens a little under the full dynamic astigmatism with suitable management of the work done by the ciliary muscle, the astigmatism will ultimately disappear.

MYOPIC ASTIGMATISM.

In myopic astigmatism, we have, in general, a weaker ciliary muscle, and the compensating lens astigmatism is much less purposeful in its character than in hyperopic cases, as we should expect. While in the nature of the case there can be no constant correction of the astigmatism by the ciliary muscle, still in low degrees, unaccompanied by spherical error, we commonly find an attempt at correction or a contraction of the meridional fibers of the ciliary muscle, produced largely by certain habits in reading.

It must be remembered that within the far point of the meridian of greatest refraction (the most myopic), the only way the astigmatism can be reduced by the ciliary muscle is by correction in the opposite meridian, making both meridians myopic in the same degree, if the astigmatism is not too high; or reducing the astigmatism in the same way, if it is too great to be corrected entirely. We have, then, the same source of irritation as in hyperopic cases, but with a relatively weaker ciliary muscle, whose weakness depends on the amount of spherical myopia, etc. It is for this reason that we so frequently find severe asthenopic symptoms in myopic astigmatism, and that such cases so frequently simulate simple myopia in the distance test. Low degrees will almost always accept spherical lenses for distance, if the same be added until both meridians are corrected, which, of course, leaves one meridian overcorrected. For this reason, I always correct the astigmatism before I add the full spherical lens, and I find very few cases of plain spherical myopia, even where the error is as high as 10 diopters.

Myopic astigmatism occurs in these general classes:

A. *Corneal Astigmatism, with Partial Regular Compensation by the Lens at the Near Point, Axis 180° or Therabouts.*

These cases have always marked diminution of distance vision with marked asthenopia for the near point on account of the meridional contraction of the ciliary muscle, as well as other factors, which we need not consider here. Low degrees may simulate a simple myopia—a patient may fail to notice an improvement in reading with cylindrical glasses—and, yet, they require full correction of the astigmatism, both far and near, if the ciliary muscle is to obtain its greatest power, and if the asthenopia is to be relieved entirely. On account of the difference in the constitution of the ciliary muscle and the fact that the dynamic astigmatism occurs only intermittently, compensation, as in hyperopic cases, does not occur, and full correction should be worn constantly.

If there is difficulty in inducing the patient to accept the cylindrical glasses called for by the corneal astigmatism, minus a certain amount for the lens (0.25 to 0.50 diopter), or if tenderness exists in the ciliary region, a mydriatic should be used, and the total static astigmatism be determined. It should never be forgotten that low degrees of this class may be due to overcontraction of the ciliary muscle in hyperopic astigmatism, simple or compound, but these cases have usually marked symptoms, and, moreover, are rather rare, errors of diagnosis in this connection being generally due to faulty technic with the trial case. The clock dial is of considerable value in the testing of these cases, for the lens astigmatism is apt to assume its static amount in the distance test, undisturbed by irregular ciliary contractions. It must be remembered, however, that where the eyes have been used without glasses for near work, especially in low degrees of spherical error, and where the muscular constitution is good, there may be some modification of the astigmatism at the distance, and we should not pay too much attention to any single test, but rather give weight to the preponderance of evidence in determining the full amount of astigmatism.

B. *Low Degrees of Corneal Astigmatism, with Irregular Modification by the Lens.*

These form a very large class, perhaps as large as the preceding. They show great variations in axes and amounts from the corneal astigmatism, which is usually "off axis," and not symmetrical in the two eyes. The principles that have already been discussed in the two previous classes of cases apply with equal force here, and it should especially be borne in mind that the lens astigmatism is so much less purposeful than in corresponding cases of hypermetropic astigmatism that the corneal reading, while important, is very little guide to the total astigmatism. I always try cylinders in the axis of the corneal astigmatism first, but if the indications are that the case belongs to the class under discussion, I do not hunt for the proper axis with the test lenses, but prefer to proceed at once to the clock dial test. This is apt to be of value, as dynamic astigmatism plays a relatively small part in such cases in far sight, and determination of the full static error is important.

C. *Lens Astigmatism Pure and Simple.*

In this class there is no corneal astigmatism, and the astigmatism is located entirely in the lens. It rarely exceeds 1 diopter, is static in character, has the same characteristics, and requires the same treatment as in the preceding class. It is very doubtful if a dynamic myopic astigmatism ever develops from a hypermetropic case, such changes being usually due to lengthening of the eyeball.

MIXED ASTIGMATISM.

These cases practically all belong to one class. The corneal astigmatism is high and "with the rule," in the vast majority of cases; in fact, mixed astigmatism "against the rule" has been with me one of the greatest of rarities. The distance vision is relatively good, when we consider the amount of the astigmatism, but asthenopia is severe. No complete lens compensation is possible, but almost invariably severe cramps of the fibers in the hypermetropic meridian exist, and are not at all readily overcome by any amount of care in testing with the trial lenses. Variations in the axis of the lens astigmatism from the corneal are uncommon, and when they do exist are of low degree, usually not more than 10° or 15°, and frequently less. Almost invariably we find a reduction of the hypermetropic meridian which is dynamic in character, and to my mind the only proper way to deal with such cases is to use a mydriatic, determine the full amount of astigmatism, and have the glasses put on before the effect of the mydriatic has passed off. We have here a condition of the ciliary muscle which may be considered a pathologic one, and the mydriatic is necessary, as much for a restoration of the fibers to the normal as it is for diagnostic purposes. Of course, this applies only to cases in which glasses have not been worn. Where the ciliary muscle is in better condition, it is frequently possible, by care in the technic of the trial case, to ascertain the astigmatism without a mydriatic. Where the full correction has been prescribed with the assistance of a mydriatic, the case should always be studied subsequently and the action of the ciliary muscle noted, and any irregularity in the focus met by an appropriate change of lens.

19 East Forty-fourth Street.

DISCUSSION.

Dr. G. C. Savage, Nashville: I do not deny that there is such a thing as lenticular astigmatism; I do deny that there is any such thing as partial contraction of the ciliary muscle. If there is a lenticular astigmatism, what brings it about, and if it is due to partial contraction of the ciliary muscle, why is it that atropin will not suspend it? Bowman's muscle has been forgotten. It is supplied by nerve fibers, as every muscle is, but not by the third-nerve fibers. Bowman's muscle fibers run meridionally and they must be there for a purpose. I believe that Bowman's muscle is supplied by the cervical sympathetic. Under the guiding influence of some faculty of the mind this muscle does the duty for which it was made, and if Bowman's muscle does anything at all it is the tilting of the lens. What will that do? Now if I have a +3.00 lens in my hand and tilt it on the horizontal axis 45 degrees the focus for rays in the horizontal plane will be, say, 13, and for those in the vertical plane 6½ inches. Now we have such power of tilting the lens of the eye but not through so great an arc. This tilting is done by the proper fibers of Bowman's muscle, and for the purpose of correcting, in part or wholly, the corneal astigmatism. In my own case I suffered when coming up to middle life and nothing conquered my astigmatism except time. The first cylindrical lens given me was plus 0.60 D. and atropin developed no more. A few years later I had to have 0.75 D. and later a 1.00, 1.25, 1.50 D. and now 2.50 D. Eighteen years ago my corneas were measured for the first time with the ophthalmometer and I had 2.50 D. of astigmatism. Bowman's muscle also serves to adjust the lens in the new-born child. If its plane is not at right angles to the visual axis the muscle fibers contract in one part or another to straighten the lens. The purpose of that muscle is to prevent lenticular astigmatism, when there is no corneal astigmatism, as well as to neutralize an existing corneal astigmatism.

Dr. Lucien Howe, Buffalo: We may recognize lenticular astigmatism by means of the entoptic images, first described by Purkinje. These were first shown to me by Tscherning with his ophthalmophacometer. That is a laboratory instrument, but it can be made useful clinically by slight alterations. Thus we can take out the prism from the ordinary Javal-Schiötz ophthalmometer by unscrewing the projection in front of the disc and lifting out from the tube the part which holds the prisms. That converts the ophthalmometer into a telescope like the ophthalmophacometer. If we also attach a small electric light immediately below the axis of the tube, on looking through the telescope at the eye we see two reflections of this light. One of these reflections, large and distinct, is of course from the anterior surface of the cornea; the other reflection, small but bright, is from the posterior surface of the lens. If we revolve the tube of the telescope in the usual way, then, as the small electric light revolves, also, the reflection from that light which comes from the posterior surface of the lens describes a distinct circle around the reflection of the light from the cornea, in all cases in which the axis of the lens is practically the same as the axis of the telescope, that is to say, in all cases in which there is no tipping of the lens with the consequent astigmatism. If the lens is tipped forward or sidewise, however, then, when the tube of the telescope with the electric light is revolved in the usual way, the reflection of the light which comes from the posterior surface of the lens does not describe a circle around the reflection from the cornea, but it does describe an ellipse. When the lens is tipped forward, the long diameter of that ellipse is horizontal; and when the lens is tipped sidewise the long diameter of the ellipse is vertical. In dynamic astigmatism due to partial contraction of the ciliary muscle, the iris may dilate irregularly by ordinary doses of atropin; but this can be seen more frequently if we use about 0.00001 gram. This should be applied in the little discs. The pupil then may dilate as an ellipse, indicating unequal contraction.

Dr. Walter L. Pyle, Philadelphia: No better evidence of the necessity of using cycloplegics in the examination of the refraction of the eye can be offered than the facts set forth by Dr. Thomson and the subsequent speakers. There is no doubt in my mind of the frequency of partial contraction of the ciliary muscle, and in cases of long standing it is perhaps not possible to produce full cyclopegia at the first examination for refraction. By constant use of the initial optical correction, a gradual unfolding and relaxation of the spasm ensues, and only after several repeated corrections of refraction, under cycloplegia, possibly extending over several years, may the full static astigmatism be determined and corrected. These facts explain in part the great divergence of opinion relative to the efficiency of the different cycloplegics. I have frequently detected a greater amount of ametropia at a second refraction under homatropin and cocain than at the initial examination under the stronger cycloplegics, such as atropin and duboisin. The great practical lesson from these observations is the necessity of periodical examinations of refraction and changes of lenses whenever indicated by recurrence of local or reflex asthenopic symptoms or evidence of refractive changes. It should be remembered that when such changes occur they may give rise to symptoms quite as annoying as the initial discomfort that led the patient to seek ophthalmic treatment. It is a well established fact that the compensatory ciliary efforts in the involuntary attempts to correct astigmatism are far more provocative of the manifold symptoms included under the general term "eyestrain" than are the similar spastic conditions in simple hyperopia.

Dr. A. L. Derdiger, Chicago: Noting particularly the difference in correcting errors of refraction without and with a mydriatic, and the changes that frequently take place in the amount of correction and also the changes in the axis of the cylinder where there is astigmatism, I decided some years ago to study some of these cases that vary considerably. A change of the axis, even of 5 degrees from the vertical or horizontal to the oblique, has made a remarkable difference in the relief given to the patient. A man, aged 43, vision before atropin was used, 20/15 (above normal), accepted minus 0.25 in each eye with no difference in vision. He had 6 degrees of right hyperphoria which I corrected by an operation on the superior muscles of the right eye. Using atropin for three days there was vision in both eyes of 20/30; with the right eye + 0.25 ⊃ + 0.50 vision = 20/30. I prescribed full correction and he wore glasses with comfort until Aug. 27, 1907, when he had recurrent headaches. Under atropin vision was found to be 20/30 and the right accepted + 0.75 ⊃ + 0 50 C., axis 45, vision = 20/20; left eye, + 0.50 ⊃ + 0.50 C., axis 120, vision = 20/20. These were worn until April, 1908, when the patient returned again, complaining of similar attacks. Atropin was used again and this time vision reduced to 20/40. Right eye accepted + 0.25 ⊃ + 0.75 C., axis 45, vision = 20/20; left eye + 1 ⊃ + 1 C., axis 120, vision = 20/20. There was more astigmatism and more hyperopia in both eyes. One of the most important things is to give full correction after the age of 30, especially for close work.

Dr. A. R. Baker, Cleveland: I do not think that these repeated statements, "I do not use mydriatics," should be endorsed. You might as well try to fit a man with a suit of clothes while he is running down the street as to try to fit glasses without a mydriatic.

Dr. E. C. Ellett, Memphis, Tenn.: I recently saw a case in which rapid changes took place in the astigmatism. Mr. P., a preacher, aged 39, a hard worker and a man who took little exercise, was seen in March, 1908, complaining of recent poor vision. He saw 20/60 in each eye, unimproved by glasses, and read J. xii with O. D., and J. vi with O. S. The nerves showed distinctly veiled edges, but no measurable swelling, no hemorrhages, no exudation. The ophthalmometer showed plus 0.50 D., regular astigmatism with the rule. The fields were normal. He complained of indigestion and constipation. His tongue was brown and furred, his liver large and tender, the spleen slightly enlarged and the other organs normal. The urine showed marked indicanuria. He slept poorly, was inclined to be moody and depressed, and his general condition was poor. I am indebted to Dr. Buford for the notes as to his general condition. In less than one month his vision was normal, with glasses, after treatment by massage, diet, washing the stomach, high enemata and plenty of water internally. Successive tests of the refraction showed:

March 30: O. D. + 1 cyl. ax. 120°. O. S. + 1.50 cyl. ax 180.
April 1: O. D. + 1.50 cyl ax 130°. O. S. + 1.50 cyl. ax. 180.
April 3: O. D. + 2 50 cyl. ax. 125°. O. S. + .50 cyl. ax. 180.
April 17: O. D. + .75 cyl. ax. 90°. O. S + .50 sph.

All these tests were without a mydriatic. When last examined, on April 17, the correction indicated gave 20/20 full in the right and partly in the left, and J. i in each eye. The nerves were not yet perfectly clear.

Dr. A. E. Davis, New York: I do not believe that lenticular astigmatism is due to partial contraction of the ciliary muscle. I do not see why the ciliary muscle should have a selective action in one set of cases, in corneal astigmatism with the rule, for instance, to neutralize part of the corneal astigmatism; and yet in another set of cases, in corneal astigmatism against the rule, to increase the corneal astigmatism, as we know to be the case from actual experience. I consider that Dr. Thomson makes one error in regard to the arbitrary subtraction of 0.50 D. from the reading of the ophthalmometer in astigmatism with the rule, and in the addition of 0.50 D. in astigmatism against the rule. The arbitrary addition or subtraction of a certain amount, say 0.50 D., should not be practiced; but after the ophthalmometric reading is made, subjective and objective tests should be made, guided by the ophthalmometric reading; and the difference between the glass accepted by the patient and the glass indicated by the ophthalmometric reading is the amount that should be subtracted or added, as the case may be. This difference may be 0.25 D., 0.50 D. (as is usually the case), 0.75 D., or even 1 D.; and in astigmatism with the rule it is subtracted from the amount indicated by the ophthalmometer, while in astigmatism against the rule it is added. Now this very difference in the corneal astigmatism as measured by the ophthalmometer and the total astigmatism as represented by the cylindrical glass accepted is supposed to be due to the lenticular astigmatism, which lenticular astigmatism Dr. Thomson thinks to be due to unequal and selective action of the ciliary muscle. But this I do not believe to be the case, because, if we assume the lens to be tilted slightly on its vertical axis either to the right or the left, we can easily understand how it neutralizes part of the corneal astigmatism when it is with the rule, and how it adds to it when it is against the rule. According to the extent of the tilting it may neutralize 0.25 D., 0.50 D., 0.75 D., or even 1 D. of the corneal astigmatism, as above mentioned, but this must be found out by actual tests and can not be arbitrarily added or subtracted. In my experience this is the true explanation of lenticular astigmatism as opposed to Dr. Thomson's explanation, as he considers it due to unequal contraction of the ciliary muscle. I am of the same opinion in this regard as Hess and Bull, both of whom believe that lenticular astigmatism is accounted for by the tilting or slight displacement of the lens.

I advocate testing for glasses, in the majority of cases, without the use of cycloplegics. I was taught to use atropin or some other cycloplegic in every patient under forty years of age, but I have come to abandon their use almost altogether since the introduction of the ophthalmometer. In some cases it may be necessary to use them (as in spasm of accommodation or in children under ten years of age), and then I use the powerful cycloplegics, and do not trifle with doubtful ones, such as homatropin.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: As ophthalmologists we deserve severe criticism for using the terms "mydriatics" and "cycloplegics" synonymously. A cycloplegic is always a mydriatic but a mydriatic is not always a cycloplegic. To be certain that we have determined the static refraction of an eye requires cycloplegia, and without cycloplegia results are apt to be contradictory. The correction of the full static refraction is seldom borne comfortably by the patient, but a knowledge of the full static refraction is necessary in order to estimate properly the correction to be given. Occupation, temperament, and the physical condition of the patient will play an important part in arriving at conclusions as to the amount of the static refraction to be corrected.

Dr. Edgar S. Thomson, New York City: I do not ignore the static astigmatism of the lens which to my mind accounts for some of the differences between astigmatism with the rule and against the rule. Further than that I think we have not data enough to decide that question. To my mind it is not a sweeping question as to whether we shall use cycloplegics or not. I do not hesitate to use them when necessary; in fact I always use them when I consider it necessary; but the point I make is that we must study the condition of the ciliary muscle. Is it compensating? Is it of normal tone or is it in a condition of cramp? If in a condition of cramp, we shall find local tenderness. I do not think that the matter can be put on the ground that no good work can be done without a cycloplegic or no good work with it. I am still unconvinced by Dr. Savage's arguments, but I admit that we have no scientific data and it seems hardly worth while to discuss theories. To my mind the important point is this, that we do not find high degrees of compensating astigmatism in presbyopes and if compensation were due to tilting of the lens we should expect it to appear as frequently in presbyopes as in the young. I believe that the gradual failure of compensation, in such cases as Dr. Savage has cited, is due to advancing nuclear sclerosis and is an indication in favor of the theory of partial contraction.

A STUDY OF ONE HUNDRED REFRACTION CASES IN INDIANS FRESH FROM THE PLAINS.*

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NEWPORT NEWS, VA.

Having had the good fortune to be able to study the refractive condition of the eyes in aborigines, and finding no literature whatever on the subject, I deem it not inappropriate to present a brief treatise on this subject.

The cases studied are confined wholly to pupils at the Hampton (Va.) Normal and Agricultural Institute, a school for negroes and Indians. This institution not being under government control, but, on the contrary, being a purely philanthropic enterprise, kindness, sympathy and individual application makes the stubbornness and distrust so inherent in the Indian melt away. The result is that he soon becomes an ideal student and is trained successfully to enter the realm of good citizenship.

Admissions to the school are made each month in the twelve, and several departments of instruction continue throughout the summer. This series of 100 cases covers exactly 289 admissions, the last being Nov. 24, 1907, four months before the compilation of the statistics. Therefore, I speak accurately when I state that the percentage having refractive errors necessitating the wearing of glasses to improve vision and to relieve symptoms of eyestrain is 34.6 per cent. The ages are from 14 to 22; Males, 127, in this series 44 cases, or about 35 per cent. Females, 162, in this series 56 cases, or about 34 per cent.

On admission a careful test of vision is made, and should it be below 20/20 in each eye, or should the usual symptoms of eyestrain develop subsequently, a thorough refractive test is made. In making this test I made careful and systematic use of the ophthalmometer, ophthalmoscope, retinoscope, phorometer and test lenses, employing a cycloplegic in every case. In these 100 cases—200 eyes—the refractive varieties found were as follows: Hyperopia, 38 eyes; simple hyperopic astigmatism, 26; compound hyperopic astigmatism, 60; myopia, 13 eyes; simple myopic astigmatism, 15; compound myopic astigmatism, 32; mixed astigmatism, 16.

The axis of hyperopic astigmatism was 90 degrees in 69 eyes, 180 degrees in 5, 45 or 135 degrees in 5, nearer vertical than horizontal in 13, and nearer horizontal than vertical in 6.

The myopic axis was 180 degrees in 38 eyes, 90 degrees in 4, 45 or 135 degrees in 4, nearer vertical than horizontal in 4, and nearer horizontal than vertical in 15.

Twenty states and territories are represented in the 289 admissions, 39 tribes, 26 in the series.

There are 3 cases of heterophoria amounting to as much as 2 degrees, no case being treated other than correcting the refractive error. No strabismus.

A marked tolerance for cycloplegics exists in the Indian. Scopolamin is not effective, being practically worthless. Homatropin 1/25 grain in each eye, applied by means of gelatin discs, is usually reliable; this dose was repeated in thirty minutes in about 10 per cent. of the cases. Atropin was necessary in 3 cases. A less than 2 per cent. solution of the latter was ineffective; also the strong solution of atropin was found necessary when its effect was desired in treating eye injuries of Indians occurring in the school work shops. In the series herewith charted, when no cycloplegic is mentioned, let it be understood that homatropin hydrobromate was used.

Fifty-one, or 17.65 per cent. of the whole number, had trachoma on entrance—16 cases in this series; the remaining 35 had normal vision. All trachoma patients are treated surgically, being promptly rolled by Knapp's forceps; and active after-treatment. In the 16 cases mentioned in the refractive series, the test was not made till the acute symptoms had subsided and the corneæ became clear. The care exercised by officers, physicians and nurses with these patients has prevented the spread of the disease at the institution.

TABLE OF ONE HUNDRED REFRACTIONS IN INDIANS.

Case number.	Vision Before Cycloplegia.	Vision During Cycloplegia.	Results of Examination, etc.	Lenses Accepted for Use. Spherical.	Lenses Accepted for Use. Cylindrical.	Tribe.	Remarks.
1.	20/70 20/50	20/40 20/40	20/20 w. +.75s. ○ +.50c. ax.90 20/20 w. +.75s. ○ +.50c. ax.90	+.50 +.50	Same. Same.	Shawnee.	
2.	20/150 20/150	20/100 20/100	20/50 w. +.50c. ax.90 ○ — .75 ax 180 20/50 w. +.75c. ax.90 ○ —2.00c. ax.180	Same. Same.	.....	Cherokee.	Scopolamin failed to produce cycloplegia; homatropin was successful.
3.	20/100 20/100	20/40 20/30	20/20 w. +.50s. ○ +.50c. ax.90 20/20 w. +.50s. ○ +.25c. ax.90	Same. Same.	.....	Oneida.	
4.	20/30 20/30	20/40 20/30	20/20 w. +.50c. at 90 20/20 w. +.25s. ○ +.50c. ax.90	Same. Same.	.....	Chippewa	
5.	20/70 20/70	20/150 20/150	20/50 w. +.75s. 20/50 w. +.75s.	Same. Same.	.....	Sioux	
6.	20/50 20/200	20/70 20/100	20/20 w. +.25s. ○ +.65c. ax.90 20/70 w. +.62c. ax.180	Same. Same.	.....	Onondaga	
7.	20/20 20/100	20/20 20/200	20/20 w. + .25c. ax.90 20/20 w. +1.75c. ax.90 ○ —.50c. ax.180	Same. Same.	.....	Omaha	Atropin 4 % sol., 5 instillations necessary to produce cycloplegia, scopolamin and homatropin having previously failed.
8.	20/30 20/30	20/30 20/50	20/20 w. +.50c. ax.90 20/30 w. +.50c. ax.90 ○ —1.00c. ax.180	Same. Same.	.....	Seneca	Scopolamin failed to produce cycloplegia; atropin 2 % sol., 3 instillations necessary for success.
9.	20/200 20/70	20/200 20/100	20/20 w. +.75s. ○ +.25c. ax.180 20/20 w. +.75s. ○ +.25c. ax. 90	Same. Same.	.....	Chippewa	
10.	20/30 20/30	20/25 20/25	20/20 w. +.25s. ○ +.25c. ax.90 20/20 w. +.25s. ○ +.50c. ax.90	Same. Same.	.....	Oneida.	
11.	20/50 20/50	20/50 20/50	20/20 w. —.50s. ○ —.50c. ax.180 20/20 w. —.50s.	Same. Same.	.....	Ponca	

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Case number.	Vision Before Cycloplegia.	Vision During Cycloplegia.	Results of Examination, etc.	Lenses Accepted for Use.		Tribe.	Remarks.
				Spherical.	Cylindrical.		
12.	20/100	8/200	20/40 w. +1.50s. ○ +1.25c. ax.100	+.75	Same.	Chippewa	
	20/100	8/200	20/40 w. +1.50s. ○ +1.25c. ax. 80	+.75	Same.		
13.	20/40	20/150	20/20 w. +1.25s.	Same.	.....	Chippewa	
	20/40	20/150	20/20 w. +1.50s.	Same.			
14.	20/30	20/40	20/20 w. +.50s.	Same.	.....	Seneca	
	20/30	20/40	20/20 w. +.50s.	Same.			
15.	15/200	15/200	20/100 w. —1.75s. ○ —.25c ax. 180	Same.	.....	Navajo	
	20/30	20/35	20/20 w. + .50s.	Same.			
16.	20/40	20/40	20/30 w. —1.12s.	Same.	.....	Shawnee.	
	20/40	20/45	20/30 w. — .50s. ○ —.50c. ax.135	Same.			
17.	20/30	20/50	20/20 w. +1.00s. ○ +.50c. ax.90	+.75	Same.	Seneca	
	20/30	20/50	20/20 w. +1.00s. ○ +.50c. ax.90	+.75	Same.		
18.	20/30	20/40	20/20 w. +.75s.	Same.	.....	Oneida.	
	20/30	20/40	20/20 w. +.75s.	Same.			
19.	20/30	20/30	20/20 w. +1.00s.	Same.	.....	Chippewa	
	20/30	20/30	20/20 w. +1.00s.	Same.			
20.	20/40	20/45	20/20 w. +.50s. ○ +.50c. ax.90	Same.	.....	Oneida.	
	20/40	20/45	20/20 w. +.50s. ○ +.50c. ax.90	Same.			
21.	20/200	20/200	20/20 w. —2.50s. ○ —25c. ax.180	Same.	.....	Assinaboine.	
	20/200	20/200	20/20 w. —3.00s.	Same.			
22.	20/100	20/200	20/30 w. +1.12s. ○ +.25c. ax.180	Same.	.....	Chippewa	
	20/100	20/200	20/20 w. +1.12s. ○ +.25c. ax. 90	Same.			
23.	20/70	20/70	20/20 w. —.25s. ○ —.75c. ax.180	Same.	.....	Seneca	
	20/70	20/70	20/20 w. —.25s ○ —.75c. ax.180	Same.			
24.	20/30	20/40	20/20 w. —.62s. ○ —.50c. ax.180	Same.	.....	Oneida.	
	20/30	20/40	20/20 w. —.25s. ○ —.50c. ax.180	Same.			
25.	20/30	20/70	20/20 w. +1.00s. ○ +.75c. ax.90	Same.	.....	Winnebago.	Trachoma: Lids rolled twice in one year, blue stick and bichlorid 1 to 500 ointment used alternately for period of 18 months. Refractive test made 20 months after entrance.
	20/30	20/50	20/20 w. + .75s. ○ +.50c. ax.90	Same.			
26.	20/150	6/200	20/40 w. +1.25c. ax.90 ○ —1.00c. ax.180	Same.	.....	Pottawattomie.	Trachoma: Lids rolled and blue stick used once or twice a day for 3 months before refractive test.
	20/50	20/70	20/20 w. + .50s. ○ +.75c. ax.90	Same.			
27.	20/70	20/100	20/30 w. +1.00c. ax.105 ○ —1.50c. ax.15	Same.	.....	Ponca	Trachoma: Lids rolled and bichlorid 1 to 500 ointment used daily for 5 months before refractive test.
	20/50	20/70	20/30 w. +1.50c. ax. 45 ○ — .50c. ax.135	Same.			
28.	20/30	20/40	20/20 w. +.65c. ax.90	Same.	.....	Chippewa	Trachoma: Lids rolled back and blue stick used twice a week for one month before refractive test.
	20/30	20/40	20/20 w. +.75c. ax.90	Same.			
29.	20/25	20/25	20/20 w. + .87s.	Same.	.....	Sioux	
	20/30	20/30	20/20 w. +1.00s.	Same.			
30.	20/100	20/150	20/30 w. —1.50c. ax.150	Same.	.....	Pawnee.	Trachoma: Lids rolled and blue stick used 3 times a week for 3 weeks prior to refractive test.
	20/70	20/100	20/20 w. + .75c. ax.135	Same.			
31.	20/100	20/100	20/20 w. +.87c. ax.90	Same.	.....	Shawnee.	
	20/70	20/70	20/20 w. +.50c. ax.90	Same.			
32.	20/30	20/30	20/20 w. +.12c. ax.90	Same.	.....	Oneida.	Trachoma: Lids rolled and blue stick applied daily for 6 weeks prior to refractive test.
	20/200	20/200	20/20 w. —1.25s. ○ —.87c. ax.180	Same.			
33.	20/100	20/70	20/30 w. —.37s. ○ —.87c. ax.180	Same.	.....	Seneca	
	20/70	20/50	20/20 w. —.37c. ○ —.75c. ax.180	Same.			
34.	20/30	20/30	20/20 w. +.50s.	Same.	.....	Pawnee.	
	20/30	20/30	20/20 w. +.50c. ax. 90	Same.			
35.	20/50	20/70	20/20 w. +1.25s. ○ +.50c. ax.90	+1.00	Same.	Chippewa.	Trachoma: Lids rolled, blue stick used 2 months prior to refractive test.
	20/50	20/70	20/20 w. + .75s. ○ +.75c. ax.90	+ .50	Same.		
36.	20/30	20/35	20/20 w. +.75s. ○ +.25c. 90	+.50	Same.	Sioux.	
	20/30	20/35	20/20 w. +.75s.	+.50	Same.		
37.	20/40	20/45	20/20 w. +1.00s.	+.87	.....	Pima Sacaton.	Trachoma: Lids rolled twice in 4 months. Argyrol, 25 % sol., instilled daily for 6 months prior to test.
	20/40	20/45	20/20 w. +1.00s.	+.87			
38.	20/30	20/35	20/20 w. +.62s. ○ +.12c. ax.90	+.50	Same.	Chippewa.	Trachoma: Lids rolled, blue stick used 3 times a week for 2 months prior to test.
	20/30	20/35	20/20 w. +.62s. ○ +.12c. ax.90	+.50	Same.		
39.	20/20	20/25	20/20 w. +.25s. ○ +.12c. ax.90	Same.	.....	Sioux.	Headache. Test made 4 months after entrance.
	20/20	20/25	20/20 w. +.37s. ○ +.12c. ax.90	Same.			
40.	20/30	20/35	20/20 w. —.62s. ○ —.37c. ax.180	Same.	.....	Assinaboine.	Trachoma: Lids rolled, and blue stick applied twice a week for 2 months prior to test.
	20/30	20/35	20/20 w. —.62s. ○ —.37c. ax.180	Same.			
41.	20/50	20/100	20/20 w. +1.00s. ○ +.25c. ax.90	Same.	.....	Pottawattomie.	
	20/50	20/100	20/20 w. +1.00s.	Same.			
42.	20/200	20/200	20/100 w. —6.00c. ax. 40	Same.	.....	Oneida.	Trachoma: Lids rolled 3 times, also blue stick and bichlorid ointment, 1 to 500. Test made 4 months after admission.
	20/100	20/100	20/70 w. —2.00c. ax.180	Same.			
43.	20/30	20/70	20/20 w. — .75s.	Same.	.....	Seneca	
	20/30	20/75	20/20 w. —1.00s.	Same.			

Case number.	Vision Before Cycloplegia.	Vision During Cycloplegia.	Results of Examination, etc.	Lenses Accepted for Use. Spherical.	Lenses Accepted for Use. Cylindrical.	Tribe.	Remarks.
44.	20/70 20/50	20/70 20/50	20/20 w. —2.25s. 20/20 w. —1.50s.	Same. Same.	.....	Sioux.	Trachoma: Lids rolled, bichlorid ointment 1 to 500 used 2 months prior to refractive test.
45.	20/50 20/150	20/150 20/150	20/40 w. —1.75s ○ —.25c. ax.180 20/40 w. —1.75s. ○ —.25c. ax.180	Same. Same.	.....	Sioux.	
46.	20/150 20/150	20/150 20/150	20/30 w. —.50s. ○ —1.50c. ax.180 20/30 w. —.62s. ○ — .50c. ax.180	Same. Same.	.....	Seneca	
47.	20/150 20/150	20/150 20/150	20/20 w. +1.00s. ○ +.37c. ax.150 20/20 w. + .87s. ○ +.25c. ax. 20	+.87 +.75	Same. Same.	Omaha	
48.	20/70 20/50	20/100 20/70	20/20 w. +.87s. ○ +.25c. ax.90 20/20 w. +.25s. ○ +.37c. ax.90	+.75 Same.	Same.	Oneida	
49.	20/30 20/30	20/45 20/45	20/20 w. +1.00s 20/20 w. +1.00s	Same. Same.	.....	Shawnee.	
50.	20/100 20/100	20/100 20/100	20/45 w. —1.25c. ax.55 20/45 w. —1.50c. ax.45	Same. Same.	.....	Arapahoe	
51.	20/70 20/70	20/100 20/100	20/20 w. —1.50s. ○ —1.00c. ax.180 20/20 w. —1.25s. ○ — .75c. ax.180	Same. Same.	.....	Winnebago.	Exophoria 4°.
52.	20/30 20/30	20/30 20/30	20/20 w. +.75s. 20/20 w. +.75s. ○ +.12c. ax.90	Same. Same.	.....	Sioux.	Esophoria 2°.
53.	20/30 20/30	20/50 20/50	20/20 w. —1.25c. ax.90 20/20 w. —1.25c. ax.90	Same. Same.	.....	Sioux.	
54.	20/100 20/100	20/75 20/75	20/30 w. +.62c. ax.180 ○ —.50c. ax.90 20/25 w. +.50c. ax.180 ○ — 62c. ax.90	Same. Same.	.....	Mashpee.	
55.	20/30 20/30	20/40 20/30	20/20 w. +.87s. 20/20 w. + 87s.	Same. Same.	.....	Shawnee.	
56.	20/45 20/100	20/50 20/100	20/25 w. +.50s. ○ + .37c. ax 90 20/25 w. +.75s ○ +1 25c. ax 20	Same. Same.	.....	Chippewa	Trachoma: Lids rolled and 25 % sol. argyrol instilled t. i. d. for 2 months prior to refractive test.
57.	20/20 20/100	20/30 20/100	20/20 w. +.37c. ax 90 20/45 w. +.50s. ○ + 37c. ax 90	Same. Same.	.....	Navajo	
58.	20/100 20/100	20/100 20/100	20/30 w. +2.75 ax.105 ○ —1 50c. ax. 15. 20/30 w. +2.00c. ax. 60 ○ — .75c ax.150.	Same.	.....	Oneida.	
59.	20/30 20/30	20/30 20/30	20/20 w. +.62s 20/20 w. + 62s	Same. Same.	.....	Oneida.	
60.	20/20 20/20	20/50 20/50	20/20 w. +.25s. ○ +.50c. ax.90 20/20 w. +.25s. ○ + 50c. ax.90	Same. Same.	.....	Cheyenne.	Eyestrain. Test made 3 months after entrance.
61.	20/35 20/35	20/50 20/50	20/20 w. +.75s. ○ +.25c. ax. 110 20/20 w. +.75s. ○ +.25c. ax. 90	Same. Same.	....	Pueblo	
62.	20/70 20/70	20/70 20/100	20/25 w. —2 50s. ○ — .50c. ax.180 20/30 w. — .50s. ○ —2 75c. ax 180	Same. Same.	.....	Omaha	
63.	20/20 20/20	20/20 20/20	20/15 w. —1.00c. ax 180 20/15 w. —1.00c. ax.180	Same. Same.	.....	Apache	Trachoma: Lids rolled, and blue stick used 3 times a week for 8 months before refractive test.
64.	20/150 20/25	20/200 20/35	20/100 w. —.50s. ○ —.75c. ax.135 20/20 w. —.37c. ax. 135	Same. Same.	.....	Menominee.	
65.	20/25 20/25	20/30 20/30	20/20 w. + 25s. ○ +.25c. ax.30 20/20 w. +.75s. ○ +.25c. ax.30	Same. Same.	.....	Arapahoe.	
66.	20/150 20/150	20/150 20/150	20/30 w. — .50s. ○ —4.00c. ax. 15 20/30 w. —1.50s. ○ —3 50c. ax.155	Same. Same.	.....	Pottawattomie.	
67.	20/30 20/30	20/30 20/30	20/20 w. +.62s 20/20 w. +.62s	Same. Same.	.....	Arapahoe.	
68.	20/75 20/75	20/100 20/100	20/30xw. +1.25s. ○ + .75c. ax.90 20/30 w. + .87s. ○ +1.00c. ax.90	Same. Same.	.....	Chippewa	
69.	20/150 20/150	18/200 18/200	20/30 w. —5.00s. ○ —1.00c. ax.175 20/30 w. —5.00s. ○ — .62c. ax.5	Same. Same.	.....	Yuki	
70.	20/200 20/200	20/200 20/200	20/20 w. +5.00s 20/20 w. +5.00s	+2.50 +2.50	.....	Pawnee.	
71.	20/100 20/100	20/100 20/100	20/45 w. +.50c. ax.105 ○ — .50c. ax.15 20/45 w. +.62c. ax.100 ○ —1.00c. ax.10	Same. Same.	.....	Stockbridge	
72.	20/30 20/30	20/35 20/35	20/20 w. +.37c. ax.90 20/20 w. +.37c. ax.90	Same. Same.	.....	Tuscarora	
73.	20/100 20/70	20/100 20/100	20/45 w. +1.25c. ax.90 ○ —1.25c. ax.180 20/40 w. + .37c. ax.90 ○ —1.00c. ax.180	Same. Same.	.....	Tuscarora	Atropin 3 % sol. to produce cycloplegia, scopolamin and homatropin having failed.
74.	20/50 20/50	20/50 20/50	20/20 w. —.50c. ax.15 20/20 w. +.50c. ax.75	Same. Same.	.....	Sioux.	
75.	20/30 20/30	20/40 20/40	20/20 w. —.75c. ax.180 20/20 w. +.50c. ax.180	Same. Same.	.....	Oneida.	
76.	20/50 20/45	20/75 20/60	20/20 w. +1.25c. ax.85 20/20 w. +1.25c. ax.85	Same. Same.	.....	Oneida.	
77.	20/70 20/50	20/70 20/50	20/20 w. +.25s. ○ +.87c. ax.90 20/20 w. +.25s. ○ +.50c. ax.90	Same. Same.	.....	Winnebago.	Trachoma: Lids rolled, blue stick and argyrol 25 % used for 9 months prior to refractive test.
78.	20/50 20/45	20/70 20/45	20/20 w. +.50c. ax.90 20/20 w. +.37c. ax.90	Same. Same.	.....	Seneca	

Case number.	Vision Before Cycloplegia.	Vision During Cycloplegia.	Results of Examination, etc.	Lenses Accepted for Use. Spherical.	Lenses Accepted for Use. Cylindrical.	Tribe.	Remarks.
79.	20/30 20/30	20/35 20/35	20/20 w. + .50s. ⊃ +.62c. ax 90 20/20 w. +1.00s. ⊃ +.75c. ax.90	Same. +.87	..... Same.	Pawnee.	
80.	20/40 20/40	20/45 20/45	20/20 w. +.37s. ⊃ +.37c. ax.135 20/20 w. +.25s. ⊃ +.25c. ax. 70	Same. Same.	.....	Shawnee.	
81.	20/100 20/70	20/150 20/100	20/20 w. —1.75s. ⊃ —1.00c. ax. 10 20/20 w. —1.50s. ⊃ — .75c. ax 170	Same. Same.	.....	Shawnee.	
82.	20/25 20/25	20/30 20/30	20/20 w. +.50s 20/20 w. +.50s	Same. Same.	.....	Tuscarora	Headache. Test made one month after entrance.
83.	20/50 20/50	50/50 20/50	20/20 w. —1.50s 20/20 w. —1.50s	Same. Same.	.....	Seneca	
84.	20/150 20/150	20/150 20/150	20/20 w. —3.00s 20/20 w. —3.00s. ⊃ —.50c. ax 65	Same. Same.	.....	Seneca	
85.	20/150 20/100	20/200 20/100	20/20 w. —3.75s. ⊃ —1.00c. ax 180 20/20 —3.00s	Same. Same.	.....	Sioux	
86.	20/35 20/35	20/100 20/100	20/20 w. +.50s. ⊃ +.75c. ax 90 20/20 w. +.25s. ⊃ +.75c. ax 90	Same. Same.	.....	Oneida.	
87.	20/150 20/150	20/150 20/150	20/20 w. +1.00s 20/20 w. +1.25s	Same. Same.	.....	Seneca	
88.	20/20 20/20	20/20 20/20	20/15 w. +.37c. ax.90 20/15 w. +.25c. ax.90	+1.25 +1.25	Same. Same.	Oneida	Headache. Test made 3 months after entrance.
89.	20/25 20/20	20/30 20/25	20/20 w. +.50c.ax.90 20/20 w. +.25s. ⊃ +.12c. ax.90	Same. Same.	.....	Klamath	Symptoms of eyestrain.
90.	20/30 20/30	20/50 20/50	20/20 w. +.50c. ax.90 20/20 w. +.50c. ax.90	Same. Same.	.....	Seneca	
91.	20/150 20/150	17/200 17/200	20/30 w. —2.50s ⊃ — .50c. ax 180 20/40 w. — .50s. ⊃ —2.75c. ax 180	Same. Same.	.....	Seneca	
92.	•20/70 20/75	20/75 20/100	20/20 w. +1.25s 20/30 w. +1.12c. ax.90 ⊃ —.62c ax.180	+1.00 Same.	.....	Oneida	
93.	20/20 20/20	20/25 20/25	20/15 w. +.50s 20/15 w. +.50s	Same. Same.	.....	Pima.	Headache. Test made 3 weeks after entrance.
94.	20/40 20/40	20/40 20/40	20/20 w. +1.00c. ax.105 20/20 w. + .75c. ax. 75	Same. Same.	.....	Oneida.	Trachoma: Lids rolled and argyrol 25 % sol. used daily for 2 months prior to test. Left hypophoria, 4°.
95.	20/40 20/30	20/45 20/45	20/20 w. +.87s. ⊃ +.50c. ax 180 20/20 w. +.87s. ⊃ +.50c. ax 180	+.50 +.50	Same. Same.	Pawnee.	
96.	20/40 20/40	20/45 20/45	20/20 w. +1.12s 20/20 w. + .75s. ⊃ +.62c. ax. 180	+.87 +.50	Same. Same.	Pottawattomie.	
97.	20/100 20/100	20/40 20/40	20/20 w. —1.25c. ax.180 20/20 w. —1.00c. ax.180	Same. Same.	.....	Apache	
98.	20/100 20/50	20/150 20/70	20/20 w. +1.00s. ⊃ +.25c. ax.90 20/20 w. + .75s	Same. Same.	.....	Shawnee.	
99.	20/30 20/30	20/100 20/100	20/20 w. +2.75s. ⊃ +.62c. ax.90 20/20 w. +2.25s	+1.75 +1.50	Same.	Omaha	
100.	20/30 20/25	20/40 20/25	20/20 w. +.75s 20/20 w. +.50s	Same. Same.	.....	Shawnee.	

When cycloplegic is not stated, homatropin hydrobromate was the one used.

DISCUSSION.

Dr. Joseph A. White, Richmond, Va.: Twenty-five or thirty years ago, it was rare for me to find among the negroes a refractive case that needed correction, but as their environment has changed, and education increased among them, these troubles have become more common, and we find now a great many negroes wearing glasses. We now often find myopia among them, which was rare twenty-five years ago. It is one of the blessings of education.

I congratulate Dr. Jones on such superior results in clearing up opacities of the cornea in trachoma, because I have never had the good fortune to get that kind of result. I have always been able to find with the use of a good light or the loupe some opacification, and I never get 20/20 or 20/15 vision in cases of this kind.

Dr. Walter L. Pyle, Philadelphia: The reported remarkable eyesight of the savage has no relation to the refractive condition of his eyes, and it is quite possible for him to be hyperopic and astigmatic and yet preserve extraordinary acuity of vision. Very recently a well-known English oculist, Mr. Carter, made an investigation of the reported visual feats of the Boer marksmen. A few weeks' study convinced him, that the whole subject was one of visual association and intimate acquaintance with environment. Nearly all the Boer feats in marksmanship could easily be duplicated by the British soldiers as soon as they had become accustomed to the country, the atmospheric conditions, the shadows, etc. Examination of the eyes of many of the Boer prisoners showed refractive conditions very much the same as those exhibited in the British recruits. In early experience with golf I often marveled at the unerring accuracy of the caddies in locating and finding golf-balls which seemed to me irretrievably lost. I examined the refraction of one of the most expert caddies that I have ever known and found not only that he had a substantial degree of ametropia, but that even with the optical correction I could obtain visual acuity no better than 6/9. He had simply learned by long years of experience to mark the course of the golf-ball and follow it in its flight. In this case the apparent extraordinary vision was nothing but a matter of long education and careful association of surrounding objects on the golf course. I am told that at the Carlisle Indian School there is an increase of refractive errors as the students advance in their studies. This was most likely due to the extra labor at close range producing asthenopic symptoms which lead to a careful examination of the refraction:

Dr. A. L. Derdiger, Chicago: Some years ago I gave a lecture before the Milwaukee Child Study Association of school teachers, on eyesight. In the discussion the principal of one of the schools said that if people could just live an outdoor life like the Indian, there would be no such thing as wearing spectacles. A year later I had an opportunity of visiting a town in Wisconsin where there was a reservation of

Indians and I thought I would put the matter to a practical test. I examined fifty Indians, ages from 15 to 45, both male and female. In some cases they accepted plus lenses. Homatropin was used on sixteen cases, ages 16 to 30, and in more than two-thirds of that number it had no impression whatever. Three of the number became very excited and examination was impossible. I was almost afraid for my life with one of them. In one-third of the cases I found that they would accept plus 0.50 D. and vision would be 20/20 with and 20/30 without. In about 20 per cent. there was from 0.50 to 3 D. hyperopia. Myopia was found in about one-tenth of the number: from minus 0.25 to 1 D. In this number I used atropin and found that most of the myopia disappeared under its use After it had worn off the myopia was manifest again. In two cases mixed astigmatism under atropin was shown. All these cases were verified six months after this first examination, and again in twelve months, with some little changes. Those that were attending school had more hyperopia.

DR. F. B. TIFFANY, Kansas City: Twenty years ago I read a paper before the International Medical Congress at Washington on the subject of the errors of refraction as gathered from statistics of about two thousand schoolchildren examined at that time. Among those were several hundred Indians at Haskell Institute at Lawrence, Kansas. The examination of these Indians showed a very large percentage of hypermetropes. It was rather the exception to find an emmetrope. Very few were myopic. Many of them had disease of the conjunctiva and cornea, and many were suffering from trachoma. These Indians seemed to be of a scrofulous diathesis, probably the result of syphilization in the attempt at civilization. It was my custom, and is now, to use bichlorid, 1 to 500, after expression in trachoma.

DR. C. P. JONES, Newport News: I can not get anything like the same results in treating other races. The Russian Jew, for instance, does not respond to treatment nearly as well as the Indian. I have seen some whose eyes have been rolled a number of times, and the eyes are worse off than before. I have a number of colored patients, too, that do not respond to treatment. If you roll the lids of the Indian you can used bichlorid, 1 to 500. If he suffers any considerable pain use argyrol or blue stick and the opacities clear up wonderfully.

A BETTER PROGNOSIS IN PENETRATING WOUNDS OF THE EYEBALL.*

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The title of this paper might well be "A Plea for the Injured Eye." Before this section a year ago a member said, in the course of some remarks, that he excluded all lacerated wounds and wounds of the ciliary body which everybody enucleated. With his extensive experience, this had a definite meaning in his own mind; to those less experienced it simply confirmed their already well-established ideas that all those eyes should be removed at once. At the same time Dr. A. E. Bulson[1] quoted a case in which, in his opinion, a probably useful eye was needlessly sacrificed by an ophthalmic surgeon without having given it the slightest possible chance to recover.

Important as it is that many eyes should be enucleated, and that done quickly, it does not obviate the fact that no eye should be enucleated till each side of its case has had a fair and impartial hearing.

In no other branch of ophthalmology is a practical knowledge so essential. In any other condition, there is time and opportunity for study, but in the case of severe injuries the patient's future depends on immediate resolution. Shall we enucleate or not; operate or wait; remove foreign bodies now or later? Immediate decision on some point is imperative. There are two or three weeks in which you may safely wait; then, why this rush to enucleate?

For some years I have been carefully investigating every case seen in which an eye has been enucleated, and I am convinced, after making every allowance, that in at least one-half of these cases the eye was removed needlessly. In fact, I know of many very useful eyes that escaped because the patient refused enucleation. The most lamentable cases, as have on several occasions been emphasized before this Section,[2] are those eyes that have become lost or useless through meddlesome surgery. I have sometimes wondered whether if such interference had been avoided there would be so much sympathetic ophthalmia. Consider in animals the number of eyes lost by injury, and recall, if you can, the blind ones through sympathetic ophthalmia. Most severely injured eyes are enucleated within the first few days; in fact, the sight of a lacerated or punctured wound of the eyeball, and especially wounds of the ciliary body, immediately brings to the mind of the average operator the thought of the necessity of enucleation as the only method of treatment, as surely as a case of malaria would to his mind suggest quinin.

This paper will not deal with treatment, except in a very general way to elucidate its idea, and for the same reason classifications will be avoided. In fact, the more injuries I see the more convinced I become that there is, and can be, no definite rule of treatment that can be applied to every case. For a thorough consideration of this entire subject in a brief practical manner I would suggest a careful study of that most excellent work of Ramsay's on Eye Injuries as one of the works in the line of conservatism, which I believe will be advanced still further.

I recall two locomotive engineers, now working, with normal vision (with glasses), who had extensive wounds, extending through cornea, ciliary body and sclera, with prolapsed iris and some escape of vitreous. Another patient, with similar injury, including the anterior capsule of the lens, more than a year ago, has now an opacity of about two-thirds of the capsule only, but this is slowly extending; still he has useful vision and otherwise a perfect eyeball. A later operation will probably restore sight.

In cases of prolapsed iris, unless it is very easily replaced, I prefer to cut it off, and, if possibility of infection exists, I invariably cauterize the edge of the wound with the electric cautery or a probe heated by a spirit lamp. This, to many of you, will seem an unnecessary measure, but the results have been so uniformly good in so many cases that I believe it to be of a decided value.[3] Eserin, though universally advised, in my hands has proved useless.

In corneal and scleral wounds, a stitch is rarely necessary, though in scleral wounds the stitching of the conjunctiva to one side over the wound is often of value. Here, too, the cautery has a similar action, not only in producing a reaction which neutralizes or eliminates infection, but it forms an adhesive material, which seals the wound and hastens closure.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Trans. Section on Ophthal., A. M. A., 1907, 363.

[2] Trans. Section on Ophthal., A. M. A., 1907, 362; also Id., 1905, 83.

[3] Am. Jour. Ophth., October, 1903.

A much clearer conception of my position may be obtained by reading the history of one case.

History.—Mr. I., as the result of carelessness in blasting, had his face, upper portion of body, hands and arms filled with fine rock. The eyelids were much swollen but I could see much fine rock imbedded in both eyes.

Treatment.—They were washed repeatedly, and atropin and dionin was used. In five days the swelling had somewhat subsided. Cocain was used, and I removed from each eye as much rock as could easily be done; this was repeated every few days till the eyes were clean. Of course, the patient remained in bed. Some days later the ophthalmoscope showed but a faint reflex in the right eye; none in the left. Right eye continued to clear; left cleared some. It showed a detached retina. After four months; O. D. vision, with a cylinder, was 20/30, but there was a piece of rock imbedded in the iris. No irritation. Three weeks later lens began to become opaque. Used atropin and dionin constantly. Notwithstanding persistent and constant coaxing on his part, operation was postponed six months more. When active changes subsided the piece of rock was removed with a piece of the iris and the lens was extracted. Operation done two years ago; vision, with glass, is now normal. If our teachings were followed—all foreign bodies removed immediately—this man would long since have been blind.

Copper, brass and iron should be removed as early as favorable opportunity will permit. Rock, glass and chemically inert matter at times seems to remain indefinitely, without reaction, but in every case must be carefully watched. Washing out the lens by opening its anterior capsule and introducing a syringe is the proper procedure when active symptoms do not soon subside, or at any time if a quiet eye becomes active and can not at once be controlled. In the majority of cases the foreign body will remain in the lens till all inflammation has subsided, when the lens can be removed with much less danger. Do not enucleate an eye, as I recently saw done by a well-known operator, because of a swollen lens.

In regard to magnet cases, which, unfortunately, in my experience, are the exception, extraction is so comparatively easy it should in every case be done at once. In these cases the eye should rarely be sacrificed. In one case, where I was obliged to make a cross-incision across the entire cornea and iris to extract a piece of steel imbedded in the posterior part of the eye, enucleation was refused. The patient was kept in bed, and now, after two years, he has a good, though blind, eyeball. In another case, a piece of steel entered the center of the cornea and partly passed through the eyeball. On removal it measured one-sixteenth less than one inch. Eye has light perception.

The use of saline solution, when required, should not be forgotten and usually the closed lids will hold it in.

Mr. J., aged 43. Extracted a dislocated cataract from bottom of a blind eye with Knapp's scoop. Lost three-fourths or more of vitreous. Filled eye with salt solution, injecting through the pupil. Result, normal eyeball.

In extracting foreign bodies from the eyeball, a T- or X-shaped incision is always preferable, and apparently closes just as readily as any other.

CONCLUSIONS.

1. Mild antiseptic cleansing — 1 to 5,000 mercuric iodid (preferable), 1 to 2,000 mercuric cyanid or 1 to 5,000 mercuric bichlorid or saturated boric acid. Argyrol in special cases.

2. Remove all magnetic foreign bodies at once; also any or all that can be removed easier and safer now than later. Those remaining to be removed from time to time when the eye can most safely stand interference.

3. Enucleate at once only such eyes as have been totally destroyed. Even then it might often be better to wait till about the fourth day to avoid the possibility of any question arising later. Others should be cleaned, filled with salt solution if necessary, prolapsed iris replaced or cut off and got in the best possible condition.

4. Cauterize infected wounds; stitch when lids will not hold edges in apposition; use atropin and dionin, as indicated. Hot applications are always safe and usually preferable to cold.

5. Keep patient in bed at least a few days, longer if possible, remembering that detachment of retina may have occurred.

6. Never interfere with an eye until you feel reasonably certain you are now doing the best thing, and that this is the best time to do it; otherwise always wait.

After ten years of active practice, constantly dealing with these injuries in the mines, smelters, railroads and shops, by carrying out the above suggestions, I have yet to enucleate my first eye that was not destroyed at once, or did not contain a foreign body, and so far, fortunately, I have never seen a case suggesting sympathetic ophthalmia where this line of treatment has been followed from the time of injury.

DISCUSSION.

Dr. S. L. Ledbetter, Birmingham, Ala.: I have never seen a case of sympathetic ophthalmitis follow injuries of this kind; of course, however, in unmanageable cases the eyes are generally removed early. In a large percentage of cases of wounds made by pocket-knives, scissors, fragments of steel from a hammer or chisel, or by shot-grains, which do not involve the ciliary zone, the eyes may be saved, with vision ranging from perception of light all the way to normal. I recall one case in which a fragment of steel from a hammer entered the cornea near the scleral margin, passed entirely through the eye, and into the orbital tissue behind, with practically normal vision resulting. I have seen normal vision in an eye that had been punctured by scissors, outside the ciliary zone, sufficient to require a stitch.

On the other hand I have seen eyes destroyed by wounds apparently trifling. I have treated but three cases of sympathetic ophthalmitis; two of those occurred fifteen or eighteen years ago. One, which I did not see until the eyes were destroyed, was the result of an arrow-wound. The other came from an iridocyclitis following an iridectomy after needling operation for soft cataract. In the third case the patient, a young girl, was brought to me with a punctured wound at the sclero-corneal margin; the wound was about a week old when I saw it. There was a hernia of the iris which could not be reduced, and was interfering with healing. It was snipped off, the eye dressed, and the patient sent home with a letter of instruction to the family physician. About eighteen days later the patient was brought to me again with an iridocyclitis in the wounded eye, and a well-marked sympathetic ophthalmitis in the other; iris heavy and cloudy; cornea full of fine inflammatory points. The sympathizing eye grew worse rapidly, and looked as though it would be destroyed entirely; vision went down to 15/200, but at the last visit it had gone up to 15/30, with general condition very satisfactory. All of these cases have been in wounds involving the iris at the scleral margin. I treated a case recently which illustrates the soundness of Dr. Donovan's ideas about waiting, only the wait was longer, I am sure, than he would advise. The patient had been struck in the eye by a foreign body twenty-three years ago. The eye was quite sore for a while; then the wound healed, and there had been no further trouble until recently, when the eye became irritable and scratchy. Examination showed a tumefaction in the corneoscleral margin, and a foreign body imbedded in it. It was so firmly imbedded in the swollen tissues that an incision had to be made on either side before it could be released. The fragment was irregularly shaped, about one-eighth of an inch in diameter, and held firmly in a fibrous bed. It had evidently gone entirely through the cornea, as the tissues, until recently, had covered it over, and as soon as it became loosened there was free escape of aqueous. The eye was irritable for a few days, but healed satisfactorily and has given no trouble since.

I believe in conservative surgery in penetrating wounds of the eye, but I always feel a little shaky when treating one which involves the ciliary zone.

Dr. J. L. Thompson, Indianapolis: I agree with Dr. Donovan in regard to waiting a reasonable time before the enucleation of an eye, but I advise against waiting too long especially when the eye is blind, or when, though a little sight remains, the eye is practically lost, and to retain the wounded organ would subject the patient to a fearful risk as to the other eye. I have seen many sad cases in which I have strongly urged the removal of an eye, and have even told the patient that I would not again see him if he did not have it enucleated. Sometimes the patient has gone to others and eventually has lost his sight, he has begged me to wait until he could hear from a distant relative, but before he could receive the letter, or the relatives could arrive, the trouble has been started and the sight eventually lost in both eyes. Many times have I removed foreign bodies from the vitreous chamber and have been rejoiced because of the excellent vision which followed. *Not only* have some of these patients lost sight over ten years after the extraction of the metal, but a violent inflammation has been set up which necessitated subsequent enucleation. I have no doubt that if Dr. Donovan could again see, twenty years *subsequently, all the* patients whose eyes were saved, or seemed to be, he would find that some have become blind in the injured eye while a few have lost the sight of both. We are told that the prevention of sympathetic ophthalmia will eventually be accomplished by suitable treatment, but until we find the means of doing this let us not be led away by transient hypotheses.

Dr. Robert L. Randolph, Baltimore: I was surprised to hear Dr. Donovan's statement that at least half of the enucleations which he had seen were unnecessary, and that he once saw a well known oculist remove an eye for a swollen lens. I recall five cases of penetrating wound of the ciliary region complicated with traumatic cataract in which the removal of the swollen lens restored vision in two cases, while in two cases light perception and an apparently safe eye free of irritation was obtained. In the fifth case enucleation was found necessary. This problem has always seemed to me a rather simple one, and I consider Dr. Donovan's experience almost unique. I can not agree with him that any parallel can be drawn from a consideration of the lower animals when speaking of the rarity of sympathetic ophthalmia. It is quite true that it is a rare disease, but it is rare because of the attitude of ophthalmologists the world over towards this disease, and because preventive enucleation is promptly resorted to. It may be that occasionally a harmless eye is removed, but for obvious reasons it is better to take no risks when confronted with the possibility of a disease whose exact nature is so obscure, and the end of which is usually blindness. I have never been able to find, after a careful search in veterinary journals and considerable experimental experience, any evidence to show that the lower animals have sympathetic ophthalmia. I made a statement to this effect some years ago. The recent investigations of Fuchs, E. V. L. Brown and Lentz strengthen me in this view and I am more than ever of the opinion that it is a disease which is peculiar to human beings and that the lower animals do not have sympathetic ophthalmia, just as they do not have either syphilis or smallpox.

Dr. Melville Black, Denver: I do not believe it is true of surgeons of experience that many eyes are being sacrificed without being given the benefit of the doubt. I take it as an ophthalmologic precept that an eye is not to be sacrificed unless it is hopelessly injured, or there is evidence that it is unsafe to delay enucleation. I can not agree with Dr. Donovan as to the use of hot applications. Both theory and experience teach that ice applications by reducing the temperature control the infection until Nature's forces can take care of it.

Dr. J. W. Park, Harrisburg: I live near the Pennsylvania steel works and a number of other large iron works. We have at least three or four serious accidents every week. Two or three years ago I had a case of an incised knife wound of the ciliary region. Most of the vitreous escaped and enucleation was necessary. This occurred in the afternoon and I thought I could apply cold applications and defer enucleation at least for a few hours. To my surprise, inside of three hours the man complained that he could hardly see with the other eye. I carefully tested his vision and he only had 10/200. I had the case prepared for enucleation at once. He regained part of his vision. It shows the necessity, in wounds involving the ciliary region, of removing the eye promptly. I have also lately had a case in which there was a wound 10 m.m. long through the sclerotic with a large bead of vitreous protruding, which I excised. I put in two sterilized catgut sutures, the wound healed up promptly, and the man had 20/40 vision. It shows the difference in cases and the care that must be exercised, especially in injuries involving the ciliary region.

Dr. R. H. T. Mann, Texarkana: In the two cases of large corneoscleral wounds with escaping vitreous I succeeded in suturing the sclera and saved each of the eyes. That has been several years ago and there has been no trouble in either eye since. A young man was brought to me with slight protrusion of the iris, with small corneoscleral wound; I clipped off the protruding iris and kept the patient under observation a week. The wound healed without any inflammation. At the end of a week this patient left me with perfect acuity of vision, 20/20. A few weeks later he was brought back to me with a sympathetic ophthalmia in his other eye, and in spite of all I could do the sympathizing eye was lost. It is difficult to know what to do with these cases.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: The questions to be decided are always, what is to be gained by treatment instead of enucleation, and what is the risk? I believe that we all recognize that an injury in the ciliary region is prone to produce sympathetic irritation and perhaps inflammation. I think that the experience of the majority of ophthalmologists will not bear out the statement of Dr. Donovan that sympathetic inflammation is rare. If there is an injury in the ciliary region, with prolapse of iris, injury of the lens, and perhaps loss of the vitreous, removal of the globe would seem to be indicated as the best and safest procedure, for other treatment would require protracted time, expense and suffering, with the ultimate result of saving little or no vision, and perhaps an irritable globe which later would require removal. But if any question arises as to whether the eyeball can be saved, either with or without sight, it is safe to delay enucleation for a week or ten days following the injury, as sympathetic inflammation has not been known to occur inside of two or three weeks following the injury, and before that time has elapsed the fate of the eye can usually be foretold. I am strongly of the opinion, however, that we are not warranted in taking too many chances, and enucleation of a badly injured eyeball, even with prospects of ultimately saving a little vision in it, is far preferable to blindness of the fellow eye through too much conservatism in an effort to avoid removal of the injured globe. I know of several cases of blindness by sympathetic inflammation following efforts to save badly injured eyeballs, and no doubt there are other members of this section who know of similar cases. In any event the patient should know the risk to be run as well as the possibilities in the way of saving eyeball and sight if an attempt is to be made to save a badly injured eyeball.

Dr. J. A. Donovan, Butte, Mont.: Some one suggested the possibility of vision in the other eye becoming poor at once. I remember bandaging one eye; the next day the patient returned with the bandage off as he could not see with the other eye. He said that the other eye had been good before, but on examination I found that he had an old optic atrophy which had not been suspected. Each one has discussed this subject from the standpoint of his own experience. All these cases must be treated individually. I said in opening my discussion that I was not discussing the indications for enucleation, but the indications for not enucleating. Within the past month's time I have had four patients, hurt in the same blast, from whom I removed three eyes; so you see I do not try to save all, but do not remove an eye that may be useful unless the indications for doing so are positive.

Clinical Notes

INFLUENCE OF NUTRITIVE ENEMATA ON GASTRIC SECRETION.

LOUIS A. LEVISON, M.D.
Attending Physician Lucas County Hospital.
TOLEDO, OHIO.

The experiments described below were carried out at the Lucas County Hospital on a young woman possessing an external gastric fistula. The gastrostomy was performed by Dr. J. H. Jacobson owing to an impassable esophageal stenosis following the ingestion of lye.

It was my endeavor to determine what effect the administration of nutritive enemata had on the secretion of gastric juice. Owing to the widespread use of nutritive enemata in many conditions, and especially in gastric ulcer, definite knowledge on this question is desirable. The practical application of the results lie in the administration of remedies to counteract any excessive or acid secretion which might possibly be produced subsequent to the enema.

Experiment.	Enema.	Fasting stomach contents before enema			Stomach contents one-half hour after enema.			Stomach contents one hour after enema.			Stomach contents two hours after enema.		
		Amount.	HCl.	Pepsin.	Amount.	HCl.	Pepsin.	Amount.	HCl.	Pepsin.	Amount.	HCl.	Pepsin.
1.	Eggs, milk, salt................	18.0	12-18	80	24.0	24-40	200	5.0	20-50	500	15.0	10-40	200
2.	Eggs, milk, salt................	22.5	25-40	80	32.0	32-48	31	7.5	36-52	50	10.0	0-10	125
3.	Eggs, milk, salt................	10.0	6-20	50	18.0	*	31	13.0	15-30	50	5.0	4-18	25
4.	Eggs, milk, salt................	17.0	12-22	80	40.0	48-60	310	35.0	18-24	31	12.0	16-22	31
5.	Peptonized milk, eggs, salt......	15.5	15-24	31	32.0	55-70	125	20.0	22-28	800	3.0	18-32	50
6.	Peptonized milk, eggs, salt......	8.0	8-16	50	26 0	30-58	50	18.0	16-36	40	6.0	12-26	44
7.	Milk, eggs, sugar, salt..........	12.0	4-12	50	38.0	46-66	80	16.0	12-30	80	8.0	12-45	50
8.	Milk, eggs, sugar, salt..........	19.0	22-30	80	44.0	36-52	200	23.5	20-28	200	11.0	11-26	200
9.	Eggs, milk; salt................	6.0	12-20	50	35.0	25-32	50	10.0	36-46	25	7.0	8-14	64
10.	Eggs, milk, salt................	11.0	10-18	31	17.0	36-40	400	12.0	16-28	31	12.5	14-22	50

* Not taken.

The points determined in the experiments herein described were the total amount of secretion, the free and total acidity and the pepsin value. All acid determinations were by the method of Töpfer. For the pepsin determinations the edestin method was used as described by Fuld and Levison.[1]

METHOD EMPLOYED.

Briefly, this method is as follows: Edestin, a white albuminous powder derived from hempseed, is used in a solution of 1 to 1,000, using as a solvent a hydrochloric acid solution having a titration strength of 30. The filtered stomach contents are used in two dilutions 1 to 100 and 1 to 10. The test is carried out with a row of six or eight test tubes for each dilution. In the first tube is placed 1.0 c.c. of the diluted stomach contents, in the second 0.8 c.c., in the third 0.6 c.c., in the fourth 0.5 c.c., in the fifth 0.4 c.c., in the sixth 0.3 c.c. in the seventh 0.2 c.c., in the eighth 0.1 c.c. To each tube is added a definite amount (2.0 c.c.) of the edestin solution and the whole allowed to digest at room temperature for one-half hour. At the end of this time strong ammonia is run down the side of each tube through a pipette so as to form a layer above. In cases in which digestion has been absent or incomplete a distinct white ring will be seen at the point of contact. Absence of this ring denotes complete digestion. The point of demarcation between the tube with a ring and the tube without is taken as the pepsin strength. Thus if in the series of the 1 to 100 dilution the tube with 0.5 c.c. has no ring, while the tube with 0.4 c.c. shows a ring, the result may be recorded thus:

$$\frac{2.0 \text{ (edestin used)} \times 100 \text{ (dilution)}}{0.5 \text{ (stomach contents)}} = 400$$

In the subject of these experiments the normal acid values and pepsin contents were determined after an Ewald breakfast. The free hydrochloric acid varied from 18 to 25 and the total acid from 30 to 50. The pepsin values were from 30 to 100, rather low amounts. The stomach contents were always removed by direct aspiration through the fistula and the amount removed was practically the entire amount secreted.

Ten determinations were made with enemata. The bowels were kept cleaned and a high enema was given through a soft rubber rectal tube. The enemata consisted of about a half-pint of milk, raw eggs and salt, with at times sugar added. Occasionally the milk was peptonized. The time of administration was always in the morning, before the patient had taken food or drink.

TECHNIC.

Each experiment was performed as follows: The contents of the fasting stomach were removed, the enema administered and the gastric juice removed by direct aspiration at the end of one-half hour, one hour and two hours after the enema. The results are tabulated, each space showing the amount of secretion in cubic centimeters, the hydrochloric acid and the pepsin work.

It will be noted that quite constantly the secretion was fairly large after thirty minutes. The hydrochloric acid rose at this period to figures considerably higher than the strength of the fasting stomach contents removed prior to each enema. At the end of the one hour period the amount of secretion showed a diminution as compared to the one-half hour amounts, likewise the acidity. At the end of two hours the amount of secretion was small and the acidity low. The pepsin values on the whole were low and did not seem to be especially influenced by the enemata. As a rule, it required a low dilution, e. g., 1 to 10, to secure digestion, but occasionally there were sharp variations from this, difficult to explain.

The half-hour secretion corresponds closely to the psychic juice secreted in *scheinfütterung* experiments and probably depends on the appetite of the patient Whether there would be an increased secretion in a patient surfeited with food is questionable Technical difficulties would well prevent the administration of enema to sleeping subjects as worked out by Pawloff in sleeping animals

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[1] Biochem. Zschr., vi, 5 and 6; and American Med., February, 1908.

It would seem from these experiments that the administration of nutritive enemata does affect the gastric juice, in that the amount and acidity are increased

237 Michigan Street

BIRTH OF UNDEVELOPED TWINS COMPLICATED BY HEART DISEASE.

J C JOSEPHSON, M D
BALTIMORE

The following case is unique in my experience·

History—Mrs E S, multipara, eight months pregnant had for some time had troublesome cough which I found to be due to a chronic endocarditis, not attended, however, with marked failure of compensation

Labor—The labor was slow and the pains ineffective After the lapse of about two hours I ruptured the membrane and two minutes later the child was born—a very small child, about the size of a six months fetus Six minutes later the woman had a strong pain, and the placenta was born together with a second infant in a closed amniotic sac, just as one occasionally sees in abortions of the second or third month I hurriedly opened the sac and removed a live child a little smaller than the first one Although the uterus contracted firmly and there was only the usual discharge of blood, the woman was attacked immediately on the birth of the second child and placenta with a distressing cough, dyspnea and a profuse discharge of frothy and bloody mucus—edema of the lungs in short In spite of all efforts she died about three hours later The babies survived a few days

The sight of an infant almost at term moving in the amniotic sac was novel to me The fate of the mother, too, impressed very vividly on me the danger of pregnancy in a woman with valvular lesions.

4 North Broadway

PILO-NIDAL SINUS.

CHARLES C ALLISON, M D
OMAHA.

The pathology of pilo-nidal sinus has been fully described by Hodges[1] When one of these hair-containing perineal sinuses is first seen an erroneous diagnosis of anorectal fistula is frequently made The symptoms are the presence of one or more small indurated areas in the perineum, with a history of pain and intermittent discharge Associated with the conditions there will be uniformly noted a small depression in the integument, designated by the French the posterior navel, located between the tip of the coccyx and the anus This dimple in the integument permits of pilus engagement and burrowing, until an actual nest of hairs becomes lodged under the skin with subsequent infection and the development of a small abscess.

The conclusion might be reached that a cyst of embryonic origin had led to this condition—that certain buried epithelial cells, prenatal in origin, had remained latent, after the style of a dermoid, and finally developed its pilus appendage This has been found to be incorrect, as no true epithelial cells nor hair bulbs have been discovered in the contents.

Given, therefore, a small tegumentary depression, the history of pain and of the development of a small abscess, with an earlier history of nodules, or of discharge from the depression in the skin, in a person whose integument is well supplied with hair, the pilonidal cyst may be recognized. I have never found a case in which the burrowing has invaded the bowel, so that in my experience the condition is not fistulous in character.

To treat the condition successfully it is essential to search carefully, after wide exposure, for ramifications of the sinus and particularly for small hair nests, which may be lodged and temporarily latent at some distance from the main sinus. Following the excision of the sinus wall in all of its ramifications the wound may be closed for primary union and the period of convalescence much abbreviated.

PRIMARY ERYSIPELAS OF THE PHARYNX.

WM H RENDLEMAN, M D
DAVENPORT, IOWA

In view of the facts that probably not more than a dozen cases of primary erysipelas of the pharynx have been reported in this country, that it is probably much more frequent than is recognized, and that the cases reported have been almost universally fatal, the following report should be of interest:

Patient—Miss M N, aged 22, waitress, had previously had good health except for two attacks of facial erysipelas when 5 or 6 years old I first saw her June 9, 1907 She complained of having had a slight sore throat for four or five days The morning I saw her she had had a hard chill with headache and fever Her breathing was at times difficult There was considerable pain in throat, made worse by deglutition, and some swelling on left side of neck She was a healthy looking girl fleshy, and well nourished The breathing was slightly obstructed much worse at times There was some hoarseness and she was very restless Temperature, 103, pulse, 120 On the left side of the neck there was moderate swelling of the glands along the anterior border of the sternomastoid There was no induration surrounding the glands, no fluctuation no change in the skin There was some tenderness on pressure and pain when the head was moved, but no spontaneous pain Dr J V Littig made the throat examination The pharynx was dry, red, and there was little if any swelling The tonsils were slightly enlarged follicular, no exudates The epiglottis was very large, globular in shape, grayish red, causing some obstruction to the glottis The vocal cords were somewhat congested The urine was negative Leucocytes ranged from 18,000 to 25,000 Examination of the rest of the body was negative A probable diagnosis of deep cellulitis of the neck, following a mild pharyngitis and tonsillitis was made The patient gradually became worse, the breathing more obstructed

Course of Disease—The hoarseness increased, and the temperature ranged from 104 to 105, with very little remission Cold was applied, calomel given and a mouth wash used On the fourth day the temperature fell after a profuse sweat to 99, remaining so for about twenty four hours, the throat symptoms and general condition were much better, the swelling and tenderness of the glands on the left side gone On the fifth day the fever rose to 104, and the condition became worse again The dyspnea was continuous, the throat findings the same as in the first examination Swelling and tenderness of the glands on the right side along the sternomastoid now made an appearance On the sixth day there was a small spot of redness on the right side at the angle of the jaw, with some swelling and tenderness of the skin. The next day the area of redness had raised edges, was hard, and advancing over the ear, face and forehead. It spread rapidly over the eyes and forehead to the opposite side of the face with *formation of bullæ, giving* a typical picture of erysipelas. The throat symptoms gradually abated, and the temperature fell by lysis to normal on the eleventh day, after what I considered the beginning of the erysipelas. Recovery was complete. Examination five months later was negative.

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[1] Boston Med and Surg Jour, 1880, p 485

Treatment.—No special treatment was employed. Eliminative and palliative measures with local applications of cold were used. Tracheotomy and intubation sets were kept in readiness.

This condition has seldom been diagnosed before its appearance was manifest on the skin. In this case the diagnosis was not made until the sixth day. The fact that erysipelas infection often makes its entrance through abrasions of the nasal mucosa and its accessory sinuses would make us expect it more frequently in the pharynx and larynx. No doubt this condition is often unrecognized when present.

AN INEXPENSIVE HOME-MADE MILK REFRIGERATOR.*

ALFRED F. HESS, M.D.
NEW YORK CITY.

Individuals and communities are at present much interested in the question of pure milk for the infants of the poor. A more rigid supervision is gradually being enforced over all those who handle milk—the farmer, the dairyman, the wholesaler, and the retailer. Although these efforts can not be too highly commended, too little stress has been laid on the importance of the care of the milk in the home of the consumer. No matter how carefully the milk has been obtained and guarded up to the time it is retailed, even if it is pasteurized or certified, it will be rendered unfit for food after standing in a room at summer heat for a few hours. That this is a real danger is known to all who have tended babies in the tenement houses in summer. Most of the people in poor circumstances have no ice or an insufficient supply, so that the milk is kept at a temperature of from 50 to 70 F.

For some months I have been endeavoring to devise a simple and inexpensive means for keeping milk in summer—one that will be within the reach of the mother in the tenement house. After considerable experimenting, I can recommend the following box for this purpose:

An ordinary packing case was obtained; it had been made for bottled water, and measured on the inside 13 by 18 inches and was 11½ inches in depth. Sufficient sawdust was placed in this box to make a substantial layer on the bottom. On this was set a tin can, tall enough to hold a quart bottle of milk and 8 inches in diameter, and around this was placed a cylinder of tin a little larger in diameter than the can. The cylinder was then surrounded by sawdust. The lid of the can was, of course, left free. The ice box was completed by nailing about 50 layers of newspaper to the lid of the case (Figs. 1 and 2). The total cost of such an apparatus is the cost of the tin can, which may be 25 or 50 cents, according to the quality. The box and sawdust can be obtained free from a grocer.

To test the value of the box, a quart of milk was placed in the can and surrounded by 6 or 7 pounds of ice; that is to say, less than 5 cents worth. The room temperature was 81 F. The efficacy of the refrigerator was demonstrated by the fact that twenty-four hours later the temperature of the water in the can was 33 F., the milk in the bottle 37 F., and that even after forty-five hours the temperature of the water had risen only to 50 F. and the milk to 52 F.

Numerous variations from this type of box were found to keep out the heat. A somewhat larger box was found more desirable. Excelsior may be substituted for sawdust. All that is necessary is that the can containing the ice be surrounded on all sides by a material which conducts heat poorly. Care should be taken that the can rests on sawdust and not directly on the wooden floor of the case. Should the case be rather shallow for the can, newspapers should be laid between the two. To prevent rusting a little soda may be placed in the can every day.

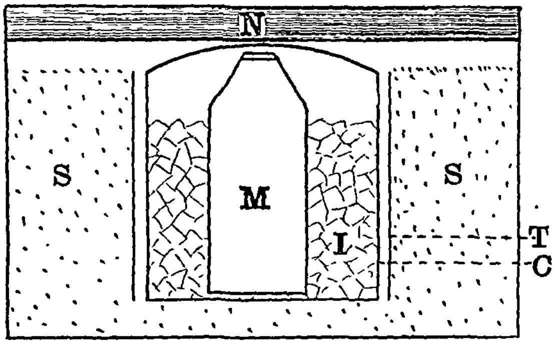

Fig. 1.—Vertical section of home-made milk refrigerator; S, sawdust, excelsior or other cheap non-conductor of heat; T, cylinder of tin or galvanized iron; C, can in which is placed the milk jar M, surrounded by broken ice, I; N, newspapers nailed to lid of case.

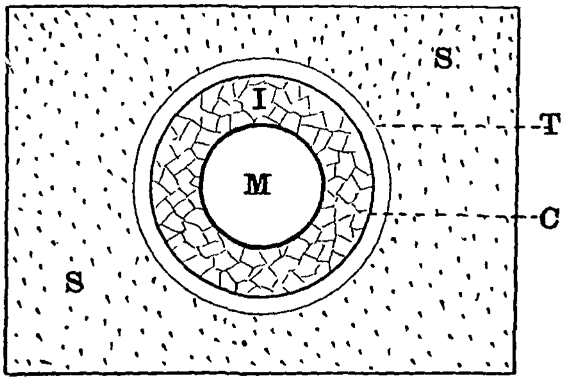

Fig. 2.—Horizontal section of home-made milk refrigerator; M, milk container; I, broken ice; C, can for holding ice; T, tin or galvanized iron cylinder to prevent sawdust, S, from falling into space when can is removed for purpose of emptying water.

The apparatus described above will keep two quart bottles of milk, or four eight-ounce feeding bottles. The great majority of mothers in the tenements keep the day's supply of milk in a quart bottle and possess but two or three nursing bottles. As the ideal method is to have as many bottles as there are feedings in the course of the day, it was determined to make such minor modifications in the ice box as would allow of this procedure. To this end a tin can was obtained which was 8¾ inches in diameter and cost 30 cents. It was sufficiently large to admit a wire bottle holder costing 45 cents and containing eight bottles. A case 18 inches square was employed to hold it. The ice was cracked into smaller pieces than before, 6 or 7 pounds being used, and the wire holder with its bottles (previously cooled in running water) was then set on the surface of the ice, or rather gently pressed down into the ice. Within one hour the temperature of the milk fell from 67 to 55 F. and continued to fall. After twenty-four hours it was at 39 F. and the water at 38 F.

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* From the Research Laboratory, Board of Health, New York.

The bacterial content of the milk was 7,000 bacteria to the c.c. when it was obtained. After twenty-four hours the milk in the refrigerator had risen to 42,000 to the c.c. A sample of the same milk left at a temperature of 73 F. showed 12,360,000 bacteria to the c.c.

Will mothers take the trouble to improvise ice boxes of this description? From an experience with mothers who consult the dispensaries I can say that they are anxious to do all in their power to protect their babies. Many would be quick to profit from the lesson if they saw a model of the ice box, were told how cheaply it can be constructed, how it will economize ice, and, finally, how its employment will aid in saving the baby from an attack of the much-dreaded summer complaint. The cost of such ice boxes can be considerably reduced if they are made in large quantities, so that with private and municipal cooperation they could be supplied for much less than the above figures.

Refrigerators of this design, one and one-half feet square by fourteen inches deep, have been distributed among the children's dispensaries, dairy kitchens, nurses' settlements and kindred organizations in New York City, where they are being demonstrated to mothers. It is hoped that this article may encourage other communities to similar action in aid of the poor babies.

Therapeutics

SALICYLIC ACID.

Salicylic acid may be classed as an antiseptic, as a bowel antiseptic and as a "specific" in acute inflammatory rheumatism or acute arthritis. As a local antiseptic it is valuable, but too expensive for extensive use. Its greatest value as a local antiseptic is in powders and ointments. Salicylic acid in some form represents, perhaps, the best bowel antiseptic that can be administered. For this purpose some combination of it or some salt of it which does not break up and become absorbed as quickly as does salicylic acid or sodium salicylate is better. The antiseptic action then extends farther down the small intestine.

While, on the one hand, it is absurd even to consider the possibility of rendering the intestinal canal aseptic, it is just as absurd to believe that some form of salicylic acid can not render the upper part of the intestine less likely to become the abode of bacteria, because such would not be the fact. In other words, it is certainly possible and is clinically easily demonstrated that fermentation and putrefaction in the intestine may be diminished by the administration of a salt of salicylic acid, as represented by salol or phenylis salicylas. It is well recognized that the normal hydrochloric acid of the stomach tends to inhibit fermentation, not only in the stomach, but in the upper part of the intestine. It is also recognized that, while normally bile is not a germicide, it does inhibit putrefaction in the intestine. Salicylic acid has the same power, and perhaps much more in acting as a bowel antiseptic. It may be able not only to prevent typhoid and other germs, especially the colon bacillus, from migrating to the upper part of the intestine, but after absorption it may be able to prevent these germs from coming to the upper part of the intestine, gall bladder, etc., by the lymph and blood streams. At any rate, it is a common and every-day demonstration that diarrheal disturbances, not chronic, but due to an acute infection or to poisonous articles of food, are stopped and prevented by salicylic acid in the form of phenylis salicylas.

Another advantage of phenylis salicylas is that it does not disturb the stomach, not being broken up there into its component parts of phenol and salicylic acid, i. e., not under ordinary conditions, it being only so decomposed in alkaline media.

Salicylic acid seems to have some stimulant action on the liver, and it is thought that more and better bile is excreted under its action.

It is somewhat irritant to the mucous membranes, and for this reason may cause nausea or vomiting and a reflex urticaria.

The signs of its full action are known as "salicylism" and are not unlike "cinchonism," i. e., there is a fulness of the head, perhaps headache, ringing of the ears and sometimes dizziness. With ordinary doses of a pure, natural product, i. e., preparations made from plants and not synthetically, the heart and circulation are not disturbed, although the surface blood vessels are dilated, and thus there is caused an increased perspiration. If salicylic acid is too long administered, by its power to increase nitrogen waste, impaired nutrition occurs, and debility is caused. The patient also may become anemic, with a tendency to hemorrhages and bleeding from the mucous membranes. Therefore, salicylic acid in any form should not be administered in any dosage but minute for longer than two weeks at a time as the outside limit. Many a patient has had a protracted invalidism following a rheumatic fever because salicylates were administered too long.

The specific action of salicylates in acute inflammatory rheumatism may be due to its bowel antiseptic action, to its antiseptic action on the blood (and rheumatic fever is doubtless a germ disease, and perhaps caused by several germs), or to the increased elimination of waste products which it causes, or it may act for good in all these ways.

INTERNAL ADMINISTRATION.

The ordinary dose of salicylic acid and of sodium salicylate are the same, as the former is less soluble than the latter, although the latter is naturally the weaker preparation. The adult dose in rheumatic fever is a gram (15 grains) of either of these preparations, administered four times in twenty-four hours, or for a few doses, perhaps, at four-hour intervals. Symptoms of "salicylism" occurring should cause the frequency or the size of the dose to be decreased. If an acute arthritis is not improved in four or five days, and certainly in a week, the salicylic acid should ordinarily be stopped. If there is improvement it may be continued in smaller doses, two or three times in twenty-four hours, for a longer period.

As the drug is very sweet, it is absurd in administering it to add any sweet preparation to disguise it, and generally the simplest method of administering a drug is the best. If the dose to be administered is very small, from 0.01 to 0.25 gram (from 2 to 4 grains) it may occasionally be given in capsule form, but in that case it must be given after a meal, as when it begins to dissolve it may cause considerable gastric pain and even vomiting. This might be prevented by a combination with bismuth, as:

℞.	gm.		
Sodii salicylatis,		or	
Bismuthi subnitratis, āā	5		āā, gr. lxxv

M. et fac capsulas, 20.
Sig.: One capsule, three times a day, after meals.

If given in liquid form, which is the best way, the following is not especially unpleasant:

℞.	gm. or c.c.		
Sodii salicylatis	20	or	ʒv
Aquæ gaultheriæ	100		fl℥iv

M. et sig.: A teaspoonful, with plenty of water, every six hours.

This could also be administered in some sparkling water.

A nascent sodium salicylate is sometimes deemed advisable as follows:

℞.	gm.		
Acidi salicyli,		or	
Sodii bicarbonatis, āā	20		āā, ʒv

M. et fac chartulas, 20.
Sig.: A powder, in a glass of water, every four hours. To drink as effervescence is about completed.

The oil of wintergreen may be used in place of the salicylic acid, if desired. The dose is 1 c.c., or 15 minims. It may be obtained in elastic capsules and thus administered, but should not be taken on an empty stomach. This preparation is sometimes rubbed into joints or applied on cotton to the affected parts.

Methylis salicylas, methyl salicylate, an artificial or synthetic oil of wintergreen, is also used externally as a liniment in rheumatic conditions.

Salol, or phenylis salicylas, ordinarily should not be used in rheumatic fever. It should also not be used when there is any kidney disturbance, as the phenol part of the preparation can cause kidney irritation. Salol should also rarely be used in very large doses, or too long, or in large doses too frequently, as it can cause the urine to become dark, indicating phenol poisoning, and may even cause hemoglobinuria and other symptoms of phenol poisoning. The best use of salol is as a bowel antiseptic, for which it may be given in doses of 0.50 gram (7½ grains) repeated two or three times, or doses of 0.30 gram (5 grains) repeated a series of times, or a still smaller dose repeated a number of days.

Salol is also much used in specific urethritis, and is valuable in certain forms of cystitis and pyelitis. As a bowel antiseptic:

℞.	gm.		
Phenylis salicylatis	2	or	ʒss
Bismuthi subnitratis	4		ʒi

M. et fac chartulas, 4.
Sig.: One powder every. three hours.
Or,

℞.	gm.		
Phenylis salicylatis	3	or	gr. xlv
Bismuthi subnitratis	10		ʒiiss

M. et fac chartulas, 10.
Sig.: One powder every two hours.

For gonorrhea:

℞.	gm.		
Phenylis salicylatis	5	or	gr. lxxv

Fac capsulas, 20.
Sig.: One capsule every four hours.

In typhoid fever:

℞.	gm.		
Phenylis salicylatis	4	or	ʒi

Fac capsulas, 20.
Sig.: One capsule every six hours.

EXTERNAL USES.

The oil of wintergreen is often used externally in rheumatic conditions, but the methyl salicylate is probably as valuable and much cheaper. Either may be used undiluted, applied to the affected joint on absorbent cotton, or a little may be rubbed into the joint, or they may be diluted, as:

℞.	gm. or c.c.		
Methylis salicylatis	10	or	flʒiiss
Petrolati	25		ʒiv

M. et sig.: Use externally as directed.

Or the methyl salicylate may be used as a liniment, as:

℞.	c.c.		
Methylis salicylatis	50	or	
Linimenti saponis, ad	100		āā, fl℥ii

M. et sig.: Use externally as directed.
Or,

Methylis salicylatis	50	or	
Linimenti chloroformi, ad	100		āā, fl℥ii

M. et sig.: Use externally as directed.

Shoemaker *suggests the following three prescriptions* for profuse or fetid perspiration:

℞.	gm.		
Acidi salicylici	10		ʒiiss
Bismuthi subnitratis	15	or	ʒiv
Zinci oleatis	10		ʒiiss

M. et sig.: Use on the parts affected.

For eczema with fissures:

℞.	gm.		
Acidi salicylici	3		gr. xlv
Betanaphtholis	.50		gr. vii
Unguenti hydrargyri nitratis	10	or	ʒiiss
Unguenti zinci oxidi	20		ʒv

M. et sig.: Use externally as directed.

For dry eczematous patches on the skin:

℞.	gm.		
Acidi salicylici	2		ʒss
Bismuthi subnitratis,		or	
Amyli, āā	10		āā, ʒiiss
Adepis lanæ hydrosi	30		℥i

M. et sig.: Use externally as directed.

The following may be used for pruritus:

℞.	gm.		
Zinci oxidi	5		ʒiss
Phenolis liquefacti	.25	or	m. iv
Acidi salicylici	.50		gr. vii
Petrolati albi	30		℥i

M. et sig.: Use externally as directed.

The following may be used for profuse, oily secretion of the skin:

℞.	gm.		
Acidi salicylici	1		gr. xv
Olei olivæ	15	or	fl℥ss
Adepis lanæ hydrosi	20		ʒv
Aquæ rosæ	25		flʒvi

M. et sig.: Use externally as directed.

TOILET AMMONIA.

The *Druggists Circular* for March, 1908, suggests the following:

℞.	gm. or c.c.		
Aquæ ammoniæ	250		Oss
Saponis mollis	120		fl℥iv
Acidi oleici	10		flʒiiss
Olei myrciæ,		or	
Olei rosmarini, āā	1		m. xv
Olei lavandulæ	10		flʒiiss
Aquæ, q. s. ad	1000	q. s. ad	Oii

M. et sig.: Ammonia water for toilet purposes.

"Dissolve the soap in 500 c.c. (a pint) of warm water, and when cool add the ammonia water and the oils; mix by agitation and add lastly the oleic acid and enough water to make 1,000 c.c. (a quart)."

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SATURDAY, JULY 25, 1908.

MEDICAL WORK IN VIENNA.

For many years, perhaps forty, there have been in Vienna a considerable number of American physicians who are pursuing postgraduate work. This little colony is constantly changing in its make-up, a physician who stays for a longer term than two years being the exception; but even so, there is about it a uniformity of purpose and a permanency in certain customs and traditions that constitute an asset whose value has been clearly recognized and jealously guarded by the generations of physicians who have made Vienna their temporary home.

While social reasons and the desire to gain knowledge from informal or formal scientific converse had much to do with the formation of the Anglo-American Medical Association of Vienna, no doubt one object in view was the preservation of this knowledge of local conditions, and of the traditions and customs just referred to, and the desire to hand these down as an heritage to oncoming physicians to whom they would be of help. And we believe the association has done good service in these respects.

But from resolutions adopted for publication in The Journal, from protests we have received against the publication of these resolutions, and from correspondence that has come to hand, we judge there has been some little discussion, indeed some rather lively discussion, going on among the American physicians in Vienna as to the stand the local association should take in encouraging physicians of all kinds to make Vienna their medical Mecca. Some have felt that the association should advise all who have only a short time to spend in postgraduate work to keep away, not on the ground that they are directly harmful to those already in residence, but that they themselves will be saved keen disappointment, for, it is announced, Vienna is not a place for "short-timers." it is of benefit only to the "long-timer," i. e., the one who can stay for six months or more. Others, resenting the somewhat aristocratic tone of the long-time, oligarchical party, say Vienna is still a good place for the short-time man, that he may profit by even a brief stay, and they deprecate spreading the impression that the man of limited time or limited means is *persona non grata;* he is a welcome addition to the medical colony.

Physicians going abroad for study at a medical center such as Vienna may be divided into four groups. The first group includes those who merely pretend to study. The work that they talk about on their return home—and this talk is a part of their stock in trade—consists of attendance on a few clinics, the staining of a section or two in a pathologic laboratory, a trip through a ward with a docent and then a flitting in a few days to another city where they again take "special courses" under Professor A or Professor B, etc. These men are essentially shams. They never intend to do serious work, or at least their "work" can not be taken seriously.

The second group is made up of men, as a rule, somewhat mature in years and in experience, often men who are teaching in colleges or are connected with hospitals. They stay but a short time, they take a little course perhaps in some special field connected with medicine or surgery, but they spend their time chiefly in hearing different teachers and in studying methods. They talk much with students. They get hold of an assistant and over the coffee and cigars learn more as to the inside workings of the hospital, the merits of the different teachers and what new investigations are in progress by the advanced workers than the ordinary doctor can find out in a year. They leave quietly after a few weeks, refreshed from having breathed an invigorating atmosphere, filled with new ideas as to what is going on in the medical world, entertaining pretty definite notions as to certain things that they will imitate and certain other things they will avoid. They are not pretenders. They are honest men who profit by their brief stay. They know what they have come for and they get it.

In the third group are the young men only a few years from college or from hospital interneships who have saved and planned for a good long stay and for solid work. They learn to know the ropes, they plan their work systematically, they keep the classes of the best teachers full of their own numbers, and the waiting list for these classes whose membership is limited is a long one. They "stand in" with everybody from the *Diener* to the *Geheimrath*. They have the inside track and, as a rule, they know it and sometimes show that they are aware that they have an advantage over the newcomer who can stay but a short time. They get a very great deal from their work.

In the last group are the men who come with vague and often incorrect knowledge as to local conditions. They have heard of the remarkable opportunities offered the American student in Vienna, how courses are especially prepared for him, how the cost of living is a trifle and they have an ill-defined notion that by putting a few *hellers* into the slot there will be ground out in a few weeks a full-fledged training as a specialist in any one of several lines, or even in several lines at the same time. They are disappointed to find that a knowledge of German is an essential, hardly a course being given in English; they are surprised to find that in Vienna good rooms and good board such as they would be content with in America cost much money; and that the instructor who designed the course for the American has one eye on the scientific feature of the course and the other on the American's pocketbook; they find the best courses full; they find the distinguished Professor X in his dotage, Professor Y unapproachable, Professor Z teaching eruditely, and stubbornly refusing to come down to the level of our American practical physician. By the time they have become oriented and have learned all these things, the leave of absence and money are exhausted and they return sadder, wiser, disappointed, often disgruntled and unjustly critical.

We can not pretend to speak from this distance with an absolutely accurate knowledge of conditions as they are at this moment in Vienna. But it would seem to us that little good can come from making public announcement as to who ought and who ought not to go there for purposes of study. We are not discussing the question as to whether the cut and dried courses that are there given are the very best for the bright young American physician, and whether they will serve to arouse in him the eager desire to pursue his further study independently and in new fields. Medical study in Vienna is valuable and will be sought by many physicians. To advise the pretenders is useless and they may be ignored. The second group is made up of men who need no advice; they know their own wants and how to satisfy them. Those of the third group are deriving good from their work, are satisfied and understand conditions. Those of the last group might be spared some disappointment, perhaps, if warnings and advice were given. But it would not always be heeded. Many physicians get more out of the short courses than one would think. And we are not sure but what it is a valuable lesson for a physician to learn by experience, and not by reading about it, just how much there is to a European education, how it can not be obtained ready-made by the mere paying of money and the expenditure of a short time. The weaker man may become discouraged and give up, but the stronger man with the right stuff in him will realize as he would in no other way that a medical education in Europe, as in America, requires time, money and, above all, persistent, hard work, and will prepare to meet these requirements

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THE CANAL ZONE.

The Panama Canal Zone, up to recent years, has been one of the most unhealthy spots on the globe; some would hold that it has had no rival whatever in this gruesome distinction. It has been looked on as a vast graveyard for those not indigenous to the soil who have gone thither. Humboldt, a century ago, after a visit in which he studied the conditions carefully, expressed his belief that the Isthmus must always be cursed by yellow fever and malaria; the former he understood to be caused by the decaying mollusks and marine plants on the beach at low tide, the latter by foul emanations from overrank vegetation. Froude declared, in that superb English of which he was so great a master, that nowhere else on earth was there concentrated in a single space so much foul disease, such a noisome mass of moral and physical abomination. Peculation did much to bring about De Lessep's failure; and since his day charges of corruption against officials have by no means been lacking. But these deterrent factors have been negligible by comparison with the hopeless unhealthfulness of the Isthmus and the territories adjacent to it. It has been said that in the construction of the railroad from Colon to Panama every cross-tie represented the tomb of a workman who labored on it.

Since then has occurred the martyrdom of Lazear, and the self-abnegating work of Reed and Carroll, by which the health of these devoted men was fundamentally impaired and their lives greatly shortened. Their labors and those of Guiteras and Agramonte and the substantial work of Kean in Cuba have established the rôle of the *Stegomyia* as the intermediary in the transmission of yellow fever, and have made the epidemics of "Yellow Jack" which visited our seaboard cities mere hideous memories; no one now fears an invasion of this disease from the tropics.

Such conditions as those described prevailed in the Canal Zone prior to 1902; but Gorgas and his associates have made this region as infection-free as any in these United States, and much more salubrious than a great many. The last case of yellow fever occurred in Panama two years ago. During 1907 Gorgas did not have a case of bubonic plague to deal with; in that year he had but one death from smallpox; he had a 50 per cent. reduction from 1906 in malaria, dysentery, pneumonia and other grave diseases. His death rate in 1907 was more than 31 per cent. lower than that in 1906. In the territory over which he has jurisdiction (the Canal Zone and the cities of Panama and Colon), he has had in his keeping the health of many thousands of men from widely different parts of the earth, engaged in digging through the swamp lands of what has been probably the most deadly region in existence. He has had, during the month of March in 1907, 36,000 employés under observation, with 122 deaths. During the corresponding month of this year he has supervised 43,000 men, with only 45 deaths. The mortality rate of the Canal Zone for March, 1908, was less than that of the city of New York, which is among the lowest, urban or rural, in civilization. The completion of the Panama Canal within the next few years is a certainty. When finished let no one have to be reminded that this epochal work could never have been accomplished had not devoted and zealous men, from Finlay to Gorgas, so magnificently applied the discoveries and resources of medical science.

THE BRAINS OF EMINENT MEN.

When looking up the literature on the higher functions of the brain one realizes how unfortunate it is that so much valuable material is not made use of. Men and women who have exhibited special aptitude and powers in *various directions that must*, according to all we can at present know or infer, have been correlated with special physical developments, probably macroscopic, of the cerebral cortex, are passing away daily. The knowledge which a study of their brains might impart is, however, through social prejudice, forever lost. One or two generalizations are fairly well established and these are almost *a priori* ones. One is that, generally speaking, the largest brains are those whose possessors are best endowed with intelligence. We may also assume it to be established that this is especially true of those who have been eminent for their achievements in the highest intellectual occupations which may be supposed to call into play and require the development of the most complex and highest mechanisms of the mind. We recognize, too, that a highly-convoluted human brain goes with a higher grade of intelligence as a rule. We know from pathologic observations the location of the special motor and speech centers, and the probable location, in a general way, of the higher intellectual faculties in the prefrontal region, and approximately the location of the sensory functions in other regions. But the physiology of the cerebral convolutions of man in any complete sense is as yet too little known, and especially do we lack the data needed to furnish any correct idea of the structural brain variations connected with the non-pathologic differences observed in different individuals of the same race.

How little has been done is illustrated by the complete series of references given by Dr. E. A. Spitzka in his recent work.[1] He was able to collect the data in regard to only 130 more or less prominent persons, and much of the material was exceedingly incomplete. His own contribution is, however, an important one; four at least of the men whose brains were studied by him had achieved a generally recognized eminence, a fifth would undoubtedly have done so if he had lived, and may, therefore, be put in the same class, while the sixth, if not exactly eminent, was a successful professional man of marked ability. While the material is not large, Spitzka has studied it thoroughly and brought out some striking and suggestive facts, which he briefly summarizes at the end of his pamphlet. One of these is the striking difference in the areas of the cuneus-precuneus regions of the brains of Dr. Leidy and Professor Cope. This difference, according to what we know of the higher functions of the human brain, corresponds to the different characteristics of the two men, Leidy having been especially strong in his power of observation, while Cope, though not defective in observing faculty, was more prominently philosophic and constructive. Another striking result is that referring to the cerebro-cerebellar ratio which Spitzka finds a full unit higher in eminent men than in the average individual, and the preponderance in the former of the commissural fibers as shown by the relative size of the callosum. These facts are very strikingly illustrated by figures and diagrams made from comparison with other material as well as with the brains that form the chief subject of the monograph.

Dr. Spitzka's presentation is a notable one and should be carefully studied by those who have the opportunity of doing similar work. There is, for example, a vast field for such studies in our insane hospitals, which has been too much neglected. The material there is pathologic in a sense, but it will be not the less useful in supplementing observations of more physiologic subjects. Insanity is largely, and we might almost say chiefly, a degenerative and often even a teratologic condition. Usually even in cases in which a direct toxemia may be the exciting cause of the mental breakdown, it is only the more or less defective that succumb. Nowadays when it is the fashion to class the majority of cases under the heads of manic-depressive insanity and dementia præcox, the one an eminently degenerative type, the other a result of developmental stress, it would seem that this proposition could not be well disputed. Yet, up to the present the pathologists have too often given their main attention to histologic changes, neglecting the fact that it is the original functional disabilities as well as, or more than, the structural lesions that cause the symptoms of mental disease. A little more attention to convolutional topography and abnormalities will do no harm.

When there is a chance for the study of brains of individuals, exceptional for ability and achievements or otherwise remarkable, and there should be many such, it should be fully utilized for the general benefit of the race. The larger the selection the better, for otherwise our data may be confused by the frequent exceptions. There are probably many mute, inglorious Miltons and Cromwells as well as hypertrophied cortical organs and special abilities in otherwise only high-class imbecile brains. It is the amount of material that counts in correctly estimating the average. And who can tell how important a bearing a better knowledge in these points may have on practical eugenics?

TUBERCLE BACILLI IN BUTTER.

Although we hear a good deal about the danger of tuberculosis from milk, there is, strangely enough, comparatively little said about the other uncooked dairy products, butter and cheese. Nevertheless, there is every reason to believe that butter, at least, is an important medium for the introduction of virulent bovine tubercle bacilli into the human alimentary tract. In one of the recently issued circulars of the Bureau of Animal Industry[1] there is a discussion of this topic, together with a report of experimental studies which indicate that butter is likely to be a dangerous article of food when made from the milk of tuberculous cows. Knowing that bacilli are heavier than water or milk, we naturally imagine that they settle to the bottom of the milk when the cream is separated by either centrifugation or natural gravity; but this, unfortunately, is not the case. In experiments made at the Bureau of Animal Industry Experiment Station it was found that tubercle bacilli present in milk soon collect in about equal proportions in the sediment and in the cream, no matter by which method the cream is separated, leaving the skim-milk relatively free from bacilli. Apparently many of the bacilli so adhere to the droplets of cream that they are carried upward in spite of their own higher specific gravity, with the result that the separated cream is much richer in tubercle bacilli than a corresponding quantity of the fresh milk from which it is obtained.

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[1] "A Study of the Brains of Six Eminent Scientists and Scholars Belonging to the American Anthropometric Society, Together with a Description of the Skull of Professor E. D. Cope." By E. A. Spitzka, M.D., Professor of General Anatomy, Jefferson Medical College, Philadelphia. Pp. 308, with illustrations. Paper. Philadelphia: American Philosophical Society, 1907.

Cornet states that among 1,527 samples of milk examined in European countries 149, or 9.76 per cent., contained tubercle bacilli, while among 775 samples of butter 100, or 12.9 per cent., were positive. Although European cattle are probably more commonly tuberculous than those in America, still the disease is common enough here, and these figures indicate that the butter is if anything more likely to contain recognizable numbers of tubercle bacilli than is the milk.

Of particular importance is the long duration of vitality and virulence of tubercle bacilli in butter. While desiccation and exposure to sunlight destroy them rapidly, the fatty coating of the butter protects them from these deleterious agencies very effectively, while the amount of salt added to butter is not sufficient to kill them. The experiments of Schroeder and Cotton show that even after four and one-half months tubercle bacilli in butter kept at 60° F. were still virulent, apparently about as much so as at the beginning. It would seem probable, also, that butter would serve to protect the tubercle bacilli from the bactericidal action of the gastric juice during their passage through the stomach; and in the intestines, according to the results of certain experiments, tubercle bacilli are most readily absorbed when in an emulsion of fat. Consequently the taking of tubercle bacilli in butter would seem to possess peculiar dangers. As butter is commonly made at central stations from milk collected from numerous sources, the chances of its containing tubercle bacilli would seem to be particularly large, and its transportation to distant markets makes proper control difficult. It is especially important, therefore, that this source of danger should be appreciated by those to whom the public health is entrusted, in order that proper steps for its control may be taken.

THE LOUISIANA SYSTEM OF HYGIENIC EDUCATION.

We commented last week[1] on Ditman's suggestion for the establishment of schools of sanitary science. The purpose of the proposed schools is not merely the education in state medicine of those seeking official sanitary appointments, but the adoption of measures looking toward education in sanitary principles, of the medical profession at large, educators, statesmen, etc., and through them of the general public; for on the intelligent cooperation of the public the ultimate success of sanitary legislation must largely depend. A useful auxiliary in this direction already exists in what has been called the "Louisiana System of Hygienic Education." The essential feature of this movement, according to Dr. J. F. Mayer,[2] consists in the holding of "Institutes of Hygiene," under the authority of the State Board of Health, before colleges, high schools, and special institutes. By this means not only is a considerable portion of the populace instructed in the nature and prophylaxis of transmissible diseases, but the movement is further extended by "the perfect correlation of the clergy of all denominations, educators, scientists, and the press, with the health service of the state in its educational efforts." The principle of this scheme has been adopted in France by ex-President Loubet, and in Greece by Dr. Cardamatis. Its benefits, moreover, have been extended, by arrangement between the respective health boards, into adjoining states. The further extension of this movement is much to be desired. It seems desirable, however, as Dr. Mayer suggests, that the educators should be independent officials not engaged also in field work; not only because there is work enough of that kind alone to engage their attention, but also because their teaching is apt to be looked on with suspicion by the ignorant if it emanates from one charged with executing the ordinances of the board.

THE MODERN SCHOOL FOR SCANDAL.

In another column[3] we publish a portion of a forcible editorial from the *Druggists Circular* entitled "Canned Mud," which shows up the discreditable methods used by the "interests" jeopardized by an efficient and effective administration of the Food and Drugs Act in circulating widely to the newspaper press "canned" editorial matter, artfully concocted to undermine, by its ceaseless "drip, drip," even the most firmly established reputation. For some time past and at present these underhand methods are being widely adopted for the purpose of undermining public confidence in Dr. Wiley, chief chemist of the United States Department of Agriculture. The unscrupulousness of these tactics is equalled only by their antiquity. They always have been used by unprincipled persons and presumably always will be. All that can be done is to caution those who may be misled to remember that one can not smoke out a wasps' nest without rousing much buzzing and some stinging.

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[1] Tubercle Bacilli in Butter. E. C. Schroeder and W. E. Cotton, Circular 127, Bureau of Animal Industry, U. S. Department of Agriculture.

[1] THE JOURNAL A. M. A., July 18, 1908, 227.

[2] Report of the Special Medical Inspector of the Louisiana State Board of Health, 1908, F. J. Mayer, M.D.

[3] Pharmacology, page 331.

THE BRITISH DAYLIGHT BILL.

A proposition is again before the British parliament to have the legal workday from April to October begin an hour and twenty minutes earlier than at present. This is to be accomplished by having all the clocks in the United Kingdom set forward eighty minutes. It is asserted that that amount of early daylight is now disused and the loss compensated for by extending the working hours into the evening, to the physical and financial detriment of the workers. There is much to be said in favor of the proposition; man is not naturally a nocturnal animal and sunlight is more healthful than artificial light, besides being less expensive. The old saw, "Early to bed and early to rise makes a man healthy," as well as some other things, was based on a good deal of human experience, and modern conditions have not yet altogether annulled its force. The advocates of the measure can find plenty of arguments and evidence in its favor, especially in Great Britain, where the tendency has been, at least among certain classes, to begin the day's activities later than is the custom in some other countries. In the adoption of standard time in this country some years ago no great difficulty was experienced in changing the clock time—to a less extent it is true—but British conservatism may make the proposed change a more difficult one to accomplish over there.

Medical News

COLORADO.

Personal.—Drs. Robert Levy, Paul Gengenbach, and S. Simon are spending the summer in Germany.

State Society Meeting.—The thirty-eighth annual meeting of the Colorado State Medical Society will be held in Denver, September 8 to 10.

Cerebrospinal Meningitis.—About 200 cases of epidemic cerebrospinal meningitis have occurred at Louisville, Colo., with a mortality of 80 per cent.

Postgraduate Instruction.—The Denver and Gross College of Medicine announces that postgraduate courses of instruction will be given during July and August.

New Jewish Hospital at Denver.—The National Jewish Hospital for Consumptives at Denver has just opened a new building which doubles its former capacity. It now houses 130 patients. The opsonic treatment for tuberculosis will be extensively used under the direction of Dr. Saling Simon. Dr. R. Mogulessky, formerly of New York, is the new bacteriologist. He was appointed on the recommendation of Dr. Knopff. This hospital is non-sectarian and all patients are treated free.

DISTRICT OF COLUMBIA.

Food Inspectors.—Inspectors have been appointed by the health department for the purpose of examining into the cleanliness of all restaurants, lunch-rooms and soda fountains in accordance with a provision by the last congress relative to the sale of food in the District.

Habit-Forming Drugs.—The health officer has recommended that the commissioners urge on Congress the enactment of an amendment to the existing pharmacy law, making it unlawful for any person, other than a registered druggist, physician or veterinarian, to have in his possession certain habit-forming drugs such as cocain, morphin, codein, heroin and chloral, so as to avoid the necessity of proving in each prosecution that such drugs are narcotics.

Health Report.—The mortality record for the week ended July 4, showed 136 deaths. This number is 21 less than occurred the previous week. Of these deaths 70 were white and 66 colored. The number of births reported during the week was 145, of which 95 were white and 50 colored. The contagious disease report showed no new diphtheria cases and a reduction of scarlet fever patients under treatment. Whooping cough cases were increased by one over the number recorded last week.

ILLINOIS.

Care of the Baby.—The State Board of Health has issued a thirty-two page circular on "The Care of the Baby," which is being distributed in all parts of the state. The circular, which deals with the feeding and care of infants, and selection and modification of cows' milk, gives clear, succinct directions to mothers as to the diet and care of the baby, the selection, modification and preparation of his food, and numerous health and comfort hints of especial value in the heated season. A chapter is also devoted to suggestions to dairymen and milk dealers, including the state laws regulating dairying.

Chicago.

Contagious Diseases.—A total of 240 cases of communicable diseases was reported to the department of health during the week ended July 18. To this list measles contributed 58 cases; scarlet fever, 55; diphtheria, 41; whooping cough and tuberculosis, each 31; typhoid fever, 17; chickenpox, 4; smallpox, 1, and minor diseases, 2.

Mortality Report.—During the week ended July 18 there were 536 deaths reported, equivalent to an annual death rate of 12.66 per 1,000. The deaths were 26 more than for the preceding week, and 36 more than for the corresponding week of 1907. Of the decedents 151 were infants under one year of age. Acute intestinal diseases headed the list of death causes was 96, followed by consumption with 66; heart disease with 53; violence (including suicide) with 43; nephritis with 33; cancer with 28, and pneumonia with 21. Sunstroke was responsible for 4 deaths, and tetanus caused one death.

The Babies' Milk.—The department of health has prepared for distribution and posting throughout the districts in which the highest infant death rate is reported the following card of warning, regarding the milk for babies:

> LOOK TO YOUR BABY'S MILK!
>
> *Feed No Dirty Milk to Your Babies.*
>
> See to it that bottles or cans from which your supply is served are clean.
>
> Milk as food for infants should be CLEAN as well as PURE. This means that you should note the condition of milk wagons and depots.
>
> If for any reason you suspect your milk supply, bring sample in original package to the City Laboratory, Fourth Floor, 215 East Madison Street. If the store, dairy, wagon or can is dirty, write us.
>
> DEPARTMENT OF HEALTH,
> City of Chicago.

Saving Infant Lives.—According to the figures compiled by the vital statistician of the Department of Health, more than 63,000 infant lives have been saved during the 12 years from 1895 to 1907 as compared with the previous 12 years, the death rate having been reduced from 6.13 to 3.18 per 1.000 of the total population. This decrease has been due principally to the education of mothers in the care of children, especially during hot weather. Notwithstanding this excellent showing, a campaign of education is still more urgently needed at present. Since 1900 there has been an enormous influx of immigration of the Slavic races, and among these people the infant and general mortality is very high. The city council has transferred $10,000 from the contagious disease fund to a special fund for the care of children. On July 20 seventy-five physicians were assigned to duty in those parts of the city, in which, during 1907, the infant death rate exceeded 7 per 1,000. Thus the fifth district, along the west bank of the river, will have 34 medical inspectors, and the fifteenth district, which includes the mouth of the Calumet River, six inspectors. These medical officers will call at every home in the district and tell the parents what to feed their babies and how to care for them. Most of the inspectors selected speak languages other than English, and many are conversant with the Slavic tongues. With the support and help of the clergy, this work should accomplish notable results.

INDIANA.

Protective Association Organized.—The Physicians' and Surgeons' Protective Association of Indiana has been incorporated with a capital stock of $10,000, although the association is said not to be organized for profit. Its object is said to be to collect information regarding persons with whom practitioners have had dealings, this information to be furnished to physicians entering practice in any town or city in the state. The following officers were elected: President, Dr. John A. Garrettson, Indianapolis; vice-presidents, Drs. James Andrews, Frankfort, and Ellis A. Squier, Frankfort; secretary, Dr. M. Albertson Howard, Indianapolis, and registrar, Dr. Arthur J. Smith, Indianapolis.

Personal.—Dr. Harry D. Hayward, Crown Point, had his left eye removed in St. Luke's Hospital, Chicago, June 12, from injury resulting from being struck in the eye by a golf ball the day before.——Dr. John N. Hurty, secretary of the State Board of Health, has been appointed a director of the National Association for the Study and Prevention of Tuberculosis.——Dr. Mary Widdop, for several years superintendent of the nurses of Lafayette Soldiers' Home, has been made assistant physician in the State Hospital for the Insane, Longcliff, Logansport.——Dr. Francis A. Shoaf, Veedersburg, took poison by mistake, June 15, and was seriously ill for a time.——Dr. James G. Boswick, Mishawaka, has recovered from his recent attack of typhoid fever.——Dr. Harry H. Weist returned from Europe, June 19.——Dr. Golding Chittick, Frankfort, has been commissioned first lieutenant and assistant surgeon in the National Guard.——Dr. Wallace S. Grayston, Marion, was operated on for appendicitis in Chicago, June 2, and has made a good recovery.

KENTUCKY.

Louisville.

Milk Association Organized.—The Babies' Milk Fund Association has just been organized. Dr. Henry E. Tuley is vice-president and Dr. Letchworth Smith, secretary-treasurer. Sufficient funds have been raised to open a milk dispensary by July 15, and additional subscriptions will be asked for from the general public shortly so the work of "Saving the Babies," which is the motto of the association, may be carried on for the remainder of the summer. The plan to be pursued is similar to that in vogue in Baltimore and other cities. Bottles of milk for the individual feedings of the baby will be distributed on the prescription of a physician and modified according to the individual needs of the baby, the parent paying ten cents a day for the twenty-four hour feeding.

Medical Colleges Merge.—The merger of the medical schools of the city now seems an assured fact. Representatives from the University of Louisville Medical Department, the Louisville and Hospital medical colleges and the Kentucky School of Medicine appeared before a meeting of the trustees of the State University of Kentucky, called by the governor in Lexington July 17, and formally made application for the merged colleges to be made the Medical Department of the State University. By a close vote it was decided to postpone action until the December meeting of the board, thus destroying any chance for the medical department of the State University to be started in time for the winter session. Appreciating the importance of the merger, a meeting was called of the members of the faculties of the three schools at the Seelbach Hotel July 18. A resolution was unanimously carried expressing the sentiment that all were in favor of a merger and that a committee composed of two members from each of the three faculties be elected by each faculty to carry out the details of the merger and to report back to the combined faculties as soon as possible. Meetings of the faculties were held at once, members of this committee were elected and the details of the merger will be carried out at once in time to get out a catalogue announcing a merger to the student body of the three schools. Drs. J. N. McCormack and William Bailey, members of the State Board of Health, were elected ex-officio members of the committee in whose hands the details of this merger will be placed. The committee is composed of the following: Drs. James M. Bodine and Joseph B. Marvin, University of Louisville; Drs. Clint W. Kelly and H. Horace Grant, Louisville and Hospital College of Medicine, and Drs. William H. Wathen and Martin F. Coomes, Kentucky School of Medicine.

MARYLAND.

Baltimore.

Deaths.—During the week ended July 18, 60 children under 2 years old died in the city; 35 deaths occurred from consumption, and 2 from pneumonia.

Contagious Diseases.—A case of smallpox was discovered July 6. The patient was sent to the isolation hospital and the other inmates of the house were vaccinated and the premises disinfected.——There were fifteen new cases of scarlet fever during the week ended July 11, with three deaths.

Death from Hydrophobia.—Henrietta Willis, who was bitten on the face by a rabid dog May 23, died from hydrophobia July 16. This is the second death from the disease out of 1,200 cases treated at the Pasteur Institute. The little patient had sixty injections of antirabic serum. There are now 50 cases under treatment in the institution.

Personal.—Dr. Daniel W. Cathell has recovered from his recent illness.——Dr. Fannie Hoopes has returned after taking a special course in Harvard University.——Dr. Harry Friedenwald has been elected president of the Federation of American Zionists.——Dr. John Randolph Winslow will attend the Pan-American Congress, to be held in Guatemala, August 5 to 10.

MASSACHUSETTS.

Diphtheria in Navy Yard.—It is reported that there are several cases of diphtheria among the 200 prisoners at the navy yard in Boston.

Board of School Physicians Re-elected.—The Lawrence Board of Health has re-elected the present board of school physicians for the following year.

Bequests.—The will of the late Hannah M. Stowe of New Bedford provides that one-sixth of her estate, the value of which is not stated, be divided among the Women's Board of Missions of Boston, the Women's Home Missionary Society of Massachusetts, the Ladies' City Mission Society of New Bedford, and St. Luke's Hospital of the same city. According to the will of the late James D. Wright, Worcester, one-third of the residue of the estate, after payment of other bequests, is left to the Worcester Memorial Hospital.

Boston.

Personal.—Dr. H. A. Christian has been appointed Hersey Professor of the Theory and Prwactice of Physic at Harvard Medical School.——Dr. F. H. Thompson, Fitchburg, has been appointed medical examiner of the third district of Worcester County, vice Dr. Herbert H. Lyon, deceased.——Dr. Timothy Leary, Boston, has been appointed medical examiner of Suffolk County.——Dr. Edwin B. Harvey, Westboro, has been appointed a member of the Board of Registration in Medicine.——Dr. Charles W. Milliken, Barnstable, has been appointed medical examiner of the second Barnstable district, vice Dr. Faunce, deceased.——Dr. Joseph V. Meigs, Lowell, has been appointed medical examiner of the eighth Middlesex district, vice Dr. Irish, deceased.

City Opens Camp for Consumptives.—Fifty consumptives, too ill to be benefited by treatment at the Massachusetts General Hospital, will be transferred to the new home of the Boston Consumptives' Hospital on the Conness estate, Mattapan, and enter on treatment which it is hoped will culminate in their improvement to an extent that will warrant their entrance into the state institution. They will go to the camp in the morning and return to their homes at night. Those who are given preference in treatment are patients whose dependents, circumstances and health most demand it. The new hospital and its location are picturesque as well as healthful, and the patients will be able to remain throughout the winter. The building is 125 feet long and contains dining-room, kitchen, examination and rest rooms, and has a spacious veranda facing to the south. It is designed to accommodate 150 patients, and besides the medical staff there will be a sufficient number of servants in attendance.

NEW YORK.

School of Hygiene.—Commissioner Eugene H. Porter of the state department of health has announced that negotiations have been completed with Cornell University for the establishment of a school of sanitary science and public hygiene. The course will be opened at Cornell October 8, with an address by President Schurman.

Vital Statistics.—The monthly bulletin of the New York state department of health gives the following interesting statement:

> During the past month the total number of deaths reported in New York State was 12,681, being a decrease over the five years' average for the same month, which is 13,141. This gives a death rate of 17.8, the birth rate being 24.6 per 1,000. When we come to compare the city death and birth rates with those of the country we find in cities the death rate to be 18.7 and the birth rate 25.5; while in the rural districts the death rate is 16.6 and the birth rate 16.2. Both death rate and birth rate are higher in the city than in the country, but in the country the birth rate is lower than the death rate, the reverse being the case in the cities.
>
> Cities which reported more deaths than births for this month are Albany, Troy, Auburn, Newburgh, Cohoes, Middletown and

Watervliet. The highest annual death rate is shown by Watervliet, which is 25.3 per 1,000. The lowest death rate is shown by Oneida, which is 6.8 per 1,000. Yonkers shows the highest birth rate (41.9), and the lowest birth rate is shown by Troy (10.2) and Albany (10.8).

New York City.

Roof Playground.—Plans have been filed with the building department providing a roof playground for the children in Roosevelt Hospital; it will be 29 by 39 feet, and fills a much-needed want.

Guarding Against Lockjaw.—Commissioner Darlington announced that a large supply of tetanus antitoxin had been distributed among the various boroughs and could be had by individuals and hospitals on request.

Laying Off Health Inspectors.—Dr. Bensel, superintendent of the sanitary bureau of the health department, announced that 100 inspectors had been laid off July 1, in order that the appropriation for the bureau should not show a deficiency. Sixty were let go in Manhattan, 30 in Queens, 5 in the Bronx, and 5 in Richmond.

To Keep Beaches Clean.—The authorities of New York City have assured the Governor of New Jersey that they will cooperate with that state in endeavoring to prevent the pollution of the Jersey coast by the dumping of garbage and refuse at sea. The dumping of street sweeping and ashes at sea will be permanently discontinued. Garbage has been dumped at sea by private collectors and New York has promised to police the bay and stop this also.

Infant Mortality Increasing.—The conference on summer care of babies gives out the notice that for the six weeks, June 1 to July 11, there was an increase over 1907 of 50 per cent. for Manhattan and the Bronx, 80 per cent. for Brooklyn, 133 per cent. for Queens, 55 per cent. for Richmond, 66 per cent. for all boroughs, this referring to deaths from diarrheal diseases of infants under one year of age. For this six weeks' period diarrheal diseases caused 763 out of 1,924 deaths.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending June 27, 406 cases of tuberculosis with 168 deaths, 286 cases of diphtheria with 28 deaths, 658 cases of measles with 19 deaths, 360 cases of scarlet fever with 30 deaths, 58 cases of typhoid with 7 deaths, 17 cases of whooping cough with 4 deaths, 3 cases of cerebrospinal meningitis with 2 deaths, and 116 cases of varicella, a total of 1,904 cases and 258 deaths.

June Death Rate.—The street cleaning commissioner has made a special effort to do thorough work and believes the reduced death rate for the month of June to be due to his efforts. The reports show that the death rate for June, 1907, was 17.89 per 1,000 in Manhattan, 18.01 for the Bronx, and 15.84 for Brooklyn; for 1908 the rate per 1,000 for Manhattan was 14.57, for Bronx 15.35, and for Brooklyn 14.18. The report for the first two weeks in July, however, showed an advance due to the hot weather.

Summer Hospitals Overcrowded.—The floating hospital of St. John's Guild has carried over 8,500 patients since it began its daily trips to Staten Island in June. This is nearly 3,000 more than for the same time last year. The Sea Side Hospital at New Dorp has also been overcrowded, having 1,000 patients, whereas it had only 500 at this time last season. The Health Home which the Children's Aid Society maintains at Coney Island has proved inadequate to the demands made on it. The normal capacity is 250 mothers and children. The hot spell has compelled the home to take in 350 more, thus overcrowding has made the need for financial aid very urgent.

Personal.—Dr. Albert Warren Ferris, president state commission in lunacy, and Dr. Adolph Meyer, director of the pathologic institute of New York state hospitals for the insane, sail this month for Europe.——Dr. Carl Beck has been decorated by the King of Sweden with the Order of the North Star.——On July 17 a reception was given Dr. and Mrs. Louis Livingston Seaman of New York City at the Peers' Club, Tokyo, under the auspices of Baron and Baroness Ozawa. During Dr. Seaman's stay in Japan he received three decorations: two given by the Japanese Red Cross Society and one, the "Rising Sun," conferred on him by the emperor.——Dr. William P. Spratling, superintendent of the Craig Colony for Epileptics, Sonyea, has been made professor of physiology and nervous diseases in the College of Physicians and Surgeons, Baltimore, vice Dr. George J. Preston, deceased.——Dr. and Mrs. M. Allen Starr and Dr. Charles L. Dana, New York City, sailed for Europe July 15.——Dr. Floyd M. Crandall, New York City, and his mother were injured on the White Mountain express, July 15.

Rules for Fly Time.—The Board of Health has been asked by the chairman of the water pollution committee, in furtherance of the campaign of the Merchants' Association against the house fly, to distribute among householders, hotel and restaurant proprietors, etc., cards on which appear the following rules and comments:

> Keep the flies away from the sick, especially those ill with contagious diseases. Kill every fly that strays into the sick-room. His body is covered with disease germs.
>
> Do not allow decaying material of any sort to accumulate on or near your premises.
>
> All refuse which tends in any way to fermentation, such as bedding, straw, paper waste and vegetable matter should be disposed of or covered with lime or kerosene oil.
>
> Keep all receptacles for garbage carefully covered and the cans cleaned or sprinkled with lime or oil.
>
> Keep all stable manure in vault or pit screened or sprinkled with lime, kerosene or other cheap preparation.
>
> See that your sewerage system is in good order; that it does not leak and is up to date and not exposed to flies.
>
> Pour kerosene into the drains.
>
> Cover food after a meal; burn or bury table refuse.
>
> Screen all food exposed for sale.
>
> Screen all windows and doors, especially the kitchen and dining room.
>
> Burn pyrethrum powder in the house to kill the flies.
>
> Don't forget that if you see flies their breeding place is in near-by filth. It may be behind the door, under the table or in the cuspidor. If there is no dirt and filth there will be no flies
>
> If there is a nuisance in the neighborhood write at once to the Health Department.

It is confidently believed that this method of following up the impression made last year, not only on the people of New York, but on those of all sections of the country, will result in a great diminution of the number of deaths from the hot-weather diseases now known to be transmitted by flies.

NORTH CAROLINA.

Personal.—Dr. Hubert A. Royster, Raleigh, has returned home after a trip in the west.——Dr. John C. Walton, formerly of Reidsville, has opened a sanatorium in Richmond, Va.

Abbatoir for Charlotte.—Charlotte municipal health authorities are providing for the erection of a complete modern abattoir which will be operated under the supervision of the city's sanitary officers.

New Hospital for Raleigh.—The contract for the new Rex Hospital at Raleigh has been let. It will be of concrete, two stories high, with basement, and is to cost about $47,960, It is hoped to have the building ready for occupancy in ten months.

No Legal Prescriptions of Liquor.—Durham, by a majority vote of its aldermen, has refused to renew the drug-store license to sell liquor on physicians' prescription, thus making it impossible, legally, to have a prescription containing liquor filled in the city.

Personal.—Dr. Laurie C. Keerans, Charlotte, announces that he will confine his practice to surgery and consultation work.——Dr. Hassell Brantley, Spring Hope, has moved to Norfolk, Va., and will confine his practice to diseases of the eye, ear, nose and throat.

Licenses of Liquor-Selling Druggists Not to Be Renewed.—The board of aldermen of Charlotte recently voted not to renew the license required of all druggists who sell whisky. According to the prescription files of the various drug stores of the city it appears that during the past year more than $50,000 worth of alcoholics have been dispensed on physicians' prescriptions, and professional sentiment is opposing it. A recent meeting of the Mecklenburg County Medical Society adopted resolutions commending the action of the aldermen in refusing the Charlotte druggists whisky license.

PENNSYLVANIA.

Typhoid at Hastings.—Typhoid fever is reported to be epidemic at Hastings, Cambria County, where 21 new cases were reported last week.

University Name Changed.—By a decree handed down July 11, the name of the Western University of Pennsylvania was changed to the University of Pittsburg.

Medical Day.—Medical Day was celebrated at Willow Grove Park July 22, by the following county medical societies: Berks, Bucks, Chester, Delaware, Lehigh, Montgomery, Northampton and Philadelphia. Dinner was served at 4 p. m., and the following addresses were made: Address of welcome, Dr. J. C. Attix, Willow Grove park physician; "Philadelphia County Medical Society," Dr. Albert M. Eaton, president; "Fraternalism in Our Ranks," by Dr. William L. Estes, president of the Pennsylvania State Medical Society, and "The Importance of Medical Organization," by Dr. Joseph D. Bryant of New York City.

Philadelphia.

Public Baths.—The report of the city public baths for the first five days of July shows that 525,000 persons visited the baths in different sections of the city. For the first week the total number of visits made aggregated 670,297.

Improving Rush Hospital.—Extensive changes are in progress at the Rush Hospital for Consumption and Allied Diseases. The new wing, which was started several months ago, will be completed by May next. This structure will be six stories high and will contain 40 individual rooms, which will increase the capacity of the hospital to 70 beds. The cost of this addition will be $125,000.

New Lutheran Hospital.—Plans have been drawn and a charter has been secured for the erection of the Lutheran Hospital. The following officers have been elected: President, H. C. Miller; vice-president, C. F. Boyer; secretary, J. H. Brandt; treasurer, P. K. Erdman; attorney, James Strong; chairman on committee on site, ex-Judge Dimner Beeber; chairman of committee on by-laws, Dr. Allen J. Smith.

Cornerstone of New Hospital Laid.—The cornerstone of the new building of the Frederick Douglas Memorial Hospital and Training School was laid with appropriate ceremonies June 28. Judge W. W. Wiltbank of the local court was the principal speaker. The new building is to be a four-story brick structure to cost $75,000. The Frederick Douglas Hospital was founded in 1895 and it is the first hospital to be established in Pennsylvania by the colored race.

Medical Inspectors' Work for Summer.—It has been announced that the work of the medical inspectors during the summer months will be devoted to the fight the city and state are making against tuberculosis. The inspectors will visit the homes of persons affected with tuberculosis and impart such knowledge and information as will aid in lessening the danger of contagion and all sanitary laws will be rigidly enforced. The department will also institute means of relief for all sufferers.

Protecting Meat Supply.—The new regulation of the Board of Health prohibiting the slaughtering of cattle on Sundays and between the hours of 6 p. m. and 6 a. m. on other days, was placed in operation July 1. This action, it is thought, will safeguard the city's meat supply because of the inability of the health department to have Sunday and night inspection of the abattoirs made. The failure of any individual or firm to observe this regulation will be followed by revoking the license of the abbattoir.

Hospital Reports.—The report of the Polyclinic Hospital for June shows that 138 patients were admitted to the wards and 1,823 new patients were treated in the dispensary. The total number of visits to the out-patient department was 7,954, and 92 patients were treated in the accident ward.——The report of the Howard Hospital for the month shows that 70 patients were admitted and that 820 new patients were in the dispensaries; 216 individuals were treated in the accident ward and 3,585 prescriptions were compounded.——The report of the Presbyterian Hospital for the same period shows that 203 patients were discharged and 168 new patients were admitted to the institution. The total number treated in the dispensary aggregated 1,882.

Health Report.—The total number of deaths reported for the week ending July 18 was 517, 264 males and 253 females, a decrease of 68 from the previous week and an increase of 86 over the corresponding week of last year. The principal causes of death were: Typhoid fever, 6; measles, 4; pertussis, 10; diphtheria, 3; consumption, 48; cancer, 19; diabetes, 5; apoplexy, 12; heart disease, 42; acute respiratory, 22; enteritis, 127; Bright's disease, 25; premature birth, 18; congenital debility, 14; old age, 7; suicides, 5; accidents, 18, and marasmus, 15.——There were 81 cases of contagious diseases reported, with 9 deaths, as compared with 119 cases and 14 deaths, reported in the preceding week.

The Samuel Gross Prize.—It is announced that essays will be received in competition for this prize until Jan. 1, 1910. The essays must be written by a single author, in the English language, and sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 South Thirteenth Streeet, Philadelphia." Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. The prize is awarded every five years to the writer of the best original essay, illustrative of some subject in surgical pathology or surgical practice, founded on original investigations, the candidates for the prize to be American citizens.

Tuberculosis Crusade.—According to a report of the bureau of health the decrease in mortality from tuberculosis for the six months of this present year was 0.078. The health department is pleased with the increase of 32 per cent. of cases reported, showing that the physicians are more interested in reporting tuberculosis cases. For the first six months of this year 3,038 cases were reported, with 2,090 deaths, as compared with 2,304 cases and 1,295 deaths reported in the previous year. A number of deaths from tuberculosis of the lungs per 1,000 population, for the decade ending 1890 was 2.95; for the decade ending 1900, 2.27, and for the period from 1900 to 1908, 2.14. The department shows that this state leads the United States in the percentage of tuberculosis. Since Jan. 1, 1903, this city has spent $417,948.01.

Charitable Bequests.—By the will of the late William W. Farr, the following institutions have been benefited: The Women's Homeopathic Hospital, $19,000; Presbyterian Home for Widows and Single Women, $50,000; Presbyterian Orphanage, $5,000; Pennsylvania Institution for the Blind, $10,000; Pennsylvania Hospital, $5,000; Jewish Hospital, $5,000.——The will of the late William Pabst bequeathes $5,000 to the German Hospital to endow the William Pabst free bed; $300 to the Women's Homeopathic Hospital; $500 to the Lutheran Orphanage; and $300 to St. Luke's Orphan Asylum.——The will of the late Catharine O'Donnell bequeathes $25 each to the following institutions: Little Sisters of the Poor. St. John's Orphan Asylum, St. Joseph's Home for Boys, and St. Vincent's Home.

Personal.—Dr. Charles W. Haughton was seriously injured while removing his automobile from a freight car in Atlantic City, July 16.——Dr. Charles B. Warder has been operated on in Stetson Hospital for appendicitis.——Drs. James Tyson, Joseph Farley, Ida E. Gaston, Irvin A. Friese, Milton B. Hartzell, Howard F. Hansell, J. William White, John G. Clark, F. F. Simpson, Paul J. Sartain, S. Lewis Ziegler, John B. Deaver, H. C. Welch and H. K. Hill have sailed for Europe.——Dr. Charles L. Leonard sailed July 16 for Europe, to attend the meeting of the British Medical Association at Sheffield and the International Congress of Electrology and Radiology in Amsterdam.——Dr. C. E. G. Shannon was operated on in Jefferson Hospital for appendicitis July 6.——Drs. John H. Jopson, George C. Stout, J. W. Robinson, W. C. Posey and C. A. Currie have sailed for Europe.——Dr. B. F. Stahl was operated on in St. Agnes Hospital for appendicitis July 4.——Dr. Walter Strong, Dr. Joseph S. Gibbs, Dr. G. Oram Ring and Dr. Judson Daland have gone to Europe.——Dr. J. L. Borsch of Paris, France, is visiting this city.

WISCONSIN.

Left Large Estate.—The late Dr. William H. Earles left an estate estimated to be worth half a million, and in his will requests his trustees so to arrange the estate as to continue the Milwaukee Medical College, if it be possible.

Tuberculosis Dispensary Opened.—The Free Medical Dispensary for tuberculous patients on the South Side was formally opened May 11. The officers of the Milwaukee Society for the Care of the Sick, under whose auspices it was arranged, acted as hostesses.

Personal—Dr. Victor H. Bassett, Milwaukee, has been chosen city bacteriologist of Savannah, Ga.——Dr. Elmer L. S. Fletcher, Eau Claire, has moved to Eugene, Oregon.——Dr. Francis A. Stirn, Cudahy, was shot and seriously wounded by a patient, who was presumably insane, June 19.——Dr. U. O. B. Wingate has removed from Milwaukee to Fox Lake.

Decision Against State Medical Board.—After two days' argument by counsel, Judge Ludwig, Milwaukee, is reported to have directed a verdict in favor of the defendant in the case of the state against Dr. Henry A. Schmidt. The action was a test case brought by the State Board of Medical Examination to annul the certificates of about 120 practitioners who secured their certificates of registration without a medical college diploma, because they were practicing prior to the organization of the board in 1897. The attorney for the state contended that the defendant did not have legal qualifications at the time the certificate was granted, and that it was secured by misrepresentation and through error. The judge decided, however, that the action involved was simply on the construction of the law and that the defendant had legal qualifications to hold his certificate. The case will be appealed to the supreme court.

WASHINGTON.

Seattle Births and Deaths.—During June there were 308 births against 255 in the same month of 1907. Deaths in June, 1908, numbered 153, compared to 143 in June, 1907.

Sanitary Squad Busy.—The health department has already destroyed by burning 300 buildings condemned as insanitary. About an equal number have been condemned and will be destroyed as fast as possible.

Personal.—Dr. L. H. Wood, Ellensburg, has fallen heir to a fortune of about $300,000 by the death of an uncle in Germany.——Dr. Fonda Nadeau, Seattle, has gone to Europe for a six months' trip.——Dr. James Shannon has returned to Seattle from abroad.

Northwest Organization.—At the meeting of the Oregon State Medical Association recently held in Portland, Dr. R. C. Coffey suggested a Northwest organization of physicians, one strong medical college for the three states of Washington, Idaho and Oregon, and one medical journal. The association will meet next year at Seattle during the Alaska-Yukon-Pacific Exposition.

GENERAL.

Confederate Medical Officers Meet.—The eleventh annual convention of the Association of Medical Officers of the Army and Navy of the Confederacy was held in Birmingham, Ala., June 9-11. The following officers were elected: Dr. Jones C. Abernethy, Birmingham, Ala.; Drs. William F. Beard, Shelbyville, Ky.; Edwin D. N. Newton, Athens, Ga.; George M. Burgett, Lenoir City, Tenn., and William H. Barnes, Homewood, Miss., vice-presidents, and Dr. A. A. Lyon, Nashville, Tenn., secretary.

Health of the Philippines for the First Quarter of 1908.—The official report of the Bureau of Health for the first quarter of 1908 states that a considerable increase in the mortality is shown as compared with the same period in 1907. This is due to the presence of cholera and smallpox. Deaths from disease occurred as follows: Typhoid, 30; smallpox, 11; cholera, 156; dysentery, 85; beriberi, 155; pulmonary tuberculosis, 272; general tuberculosis, 15; meningitis, 160; convulsions, 531; tetanus, 43; acute bronchitis, 217; chronic bronchitis, 124; bronchopneumonia, 23; chronic diarrhea, 34; diarrhea and enteritis (in patients over 2 years), 57; infantile debility, 157.

Far Eastern Association of Tropical Medicine Formed.—The fifth annual meeting of the Philippine Islands Medical Association was held in Manila, February 26-29. Eleven delegates were present from far eastern countries and formed the Far Eastern Association of Tropical Medicine. This association is to meet biennially in one of the countries entering into the agreement, the first meeting to be held in Manila in 1910. The association has for its object the closer union of medical men and the advancement of the medical profession in far eastern countries, and the gradual dissemination of hygienic knowledge among the native peoples. The officers elected were: President, Dr. Paul C. Freer, Manila; Secretary-Treasurer, Dr. Francis Clark, Hong Kong.

Effects of the Opium Law.—Dr. Victor C. Heiser, Director of Health for the Philippines, states in his official report that on the prohibition of the use of opium becoming absolute in the island except for medical and scientific purposes, the number of habitués seeking treatment has enormously increased. The care of these unfortunates has thrown much additional work on the Board of Health. Several wards of the insane department at San Lazaro Hospital were set aside for them and Dr. Heiser states that though unlimited patience is required at first they soon become satisfied with their surroundings, and that the majority really desire to be cured. Arrangements are now being made with the provincial board of Cebu for the use of part of the provincial carcel as a hospital for the use of opium habitués and as soon as this is accomplished facilities will be available for such treatment at Manila, Cebu or Iloilo. Free transportation is provided to and from the patients' homes.

Pan-American Congress.—The Fifth Pan-American Medical Congress will be opened in a formal way by the president of the Republic of Guatemala on the evening of August 5, at which session the official representatives of the country and those of the other American republics will be present. The papers are principally on questions of general and tropical medicine, hygiene and sanitation, both of civil and military character, and general surgery, the consideration of the different remedial agents used in southern countries, and papers on the different specialties. There will probably be a section in medicine, including general, internal and tropical diseases, with perhaps children's diseases, nervous and mental diseases and therapeutics; a surgical section, including general and abdominal surgery, gynecology, anatomy and obstetrics; a section on eye, ear, nose and throat diseases; a section on hygiene, demography, military sanitation and epidemiology; and other sections, as the general committee sees fit. It is said that the boats of the United Fruit Company, leaving New Orleans, are very commodious and comfortable; that the new railroad from Porto Barrios on the gulf to the capital of Guatemala is an excellent one; that the time chosen for the congress is the period known as the "cunicula," when it is warm but not raining. Guatemala City is situated on a plateau one mile above the sea level, and is said to be cooler than our middle western states in summer.

FOREIGN.

Italian Medical Senators.—Among the recently elected senators in Italy are five well-known physicians connected with various universities: G. B. Grassi, professor of comparative anatomy at Rome, the well-known authority on malaria; A. Carle, professor of surgery at Turin; P. Foa, professor of pathologic anatomy at Turin; G. D. Novara, professor of surgery at Genoa, and G. Paladino, professor of physiology at Naples.

Medical Historical Exhibition at Stockholm.—The Swedish Medical Association is to celebrate its centennial next October, at Stockholm. A special committee is making great efforts to have a notable collection of historical medical portraits, medals, printed and manuscript works and an antique apothecary shop as features of the celebration. The committee includes some of the editors of *Hygiea*, the official organ of the Swedish Medical Association, which issues an appeal for all to bring forth their historical relics, etc.

Memorial to Botkin.—A life-size statue of S. P. Botkin, 1832-1889, was unveiled in the grounds of the Military Medical Academy at St. Petersburg on the eighteenth anniversary of his death, May 25. In the memorial address Sirotinin stated that of the seventy pupils who worked under Botkin's direction more than half have become professors at various universities. Botkin founded in 1869 and maintained the Russian *Archives for Internal Medicine*, and in 1880 founded the *Weekly Clinical Gazette*, better known as *Botkin's Gazette*, which became very popular.

The Koch Endowment.—Sums have been received to date amounting to a total of $225,000, and the personnel of the board of eleven managers has been officially announced at Berlin. The aim of the foundation is to supply funds to be applied in the crusade against tuberculosis as R. Koch may direct. A number of German cities have appropriated sums ranging from $100 to $2,000 to add to the fund, and local medical societies and private individuals of all classes are also contributing. A gift of $5,000 or more entitles the donor to special privileges, and the sum is called by his name as a special fund.

Awards for Science.—The Prussian Academy of Sciences has recently appropriated nearly $10,000 for scientific purposes. Among the beneficiaries is M. Rothmann, Berlin, who was given $125 to further his research on the functions of the hemispheres of the brain. W. A. Nagel, Berlin, was given $250 to further his research on acoustic and phonetic phenomena; A. Lohmann, Marburg, $250 to aid his research on the ear. The central committee working on the international nomenclature for the central nervous system was also given $250, and $350 was applied for the purchase of the radium left by the late Prof. O. Lassar.

Death of Medical Missionary.—The death is reported from Umbundus, Angola, Africa, of the Rev. William Fay, B.A., B.D., who, while not holding a medical degree, had, nevertheless, like so many other missionaries, a large practice among both whites and blacks. The difference between Mr. Fay and many other non-medical missionaries, according to a correspondent of the *Journal of Tropical Medicine*, is that he practiced medicine scientifically. From the same source we learn that Mr. Fay spent three months of his last furlough but one at the London School of Tropical Medicine, and that it was he who confirmed the finding of human trypanosomiasis in the Benguella hinterland.

LONDON LETTER.

(From Our Regular Correspondent.)

London, July 11, 1908.

The Daylight Saving Bill.

When Mr. Robert Pearce's "daylight saving bill" was brought into parliament it was generally regarded as a joke. But since then many people have been converted to the idea and the select committee of the house of commons has now issued a remarkable report in favor of it. Instead, however, of advancing the clock 80 minutes by an alteration of 20 minutes on each Sunday in April with a corresponding retrogression in September, the committee proposes an advance of the clock by one hour at 2 a. m. on the third Sunday in April, with a corresponding retrogression in September. For all scientific purposes, such as astronomy and navigation, Greenwich mean time will be used as at present. By this plan a saving of 153 hours of daylight will be effected as against 210 hours by Mr. Pearce's bill, but the plan has the advantage of greater simplicity. The committee has found that the following benefits would be gained: 1. The usual hours of work and leisure would be shifted nearer to sunrise. 2. The greater use of daylight for recreative purposes would be promoted. 3. The use of saloons would be lessened. 4. The training of the territorial army would be facilitated. 5. The physique, general health and welfare of all classes of the community would be promoted. 6. The commercial, industrial and domestic expenditure on artificial light would be reduced.

Poisoning by Anilin Oil.

A remarkable case of poisoning by anilin oil is reported from Manchester. A workman splashed a quantity of the oil over his clothes while opening a cask, and went on working without changing. The oil was absorbed by his body, he developed severe symptoms of anilin poisoning and died in a short time.

Prosecution of a Quack.

The activity of the authorities in the prosecution of quacks continues. The latest example is furnished by a man named Napoleon Hirschfield, who was making $7,000 a year by sending bottles of medicine all over the country. He was charged at Brighton with obtaining $13 by false pretenses from a man. According to the evidence of the chief constable, he took rooms at a house and advertised in the papers as follows: "Rheumatism of all kinds and rheumatoid arthritis cured. A lady knows of a wonderful treatment which has cured when all else failed. Sufferers may receive particulars by sending stamped addressed envelope to Mrs. Clarke, Teignmouth." Letters received by this person were forwarded to the prisoner, who wrote to the applicants stating that their cases had been recommended to him and asking particulars as to length of suffering, whether joints were swollen, etc. When answers were received he asked for payment and directed his clerk to make up a "treatment" and send it to the applicants. Almost invariably the sufferers wrote that they were not much, if any, better. Additional treatment was sent as long as the price charged was forwarded, but when money was not forthcoming the prisoner threatened legal proceedings. The prisoner's clerk said that he was ordered to make the preparations by filling up a little glass with turpentine and then coloring it red, after which cayenne pepper was added. When complaints were made that the preparations caused blisters the cayenne was omitted. On being arrested the prisoner said that he did not know that he was doing wrong. He had been curing people for twenty years of rheumatism and had cured himself. The chief constable said that his books showed a profit of $7,000 a year. He was remanded on bail.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, June 24, 1908.

The Success of Preventive Medicine.

However unsatisfactory the results of the specific treatment of infectious diseases may be, the morbidity and mortality of these diseases taken as a whole show almost uniformly a gratifying reduction. Especially for the acute infections this progress depends on the improvement in diagnosis and hygiene. This appears very plainly in the fight against typhoid fever in western Germany. In this region there existed for many years a high rate of sickness and deaths from this disease, and all attempts to lower it were without success, until it was determined to investigate, according to a carefully worked out and systematic plan, the individual disease foci of typhoid and the method of its spread. In carrying out this plan Robert Koch cooperated in a prominent way and, as in most cases, he succeeded in achieving results. By following every case of typhoid to its original source it was possible to eliminate the focus of the disease. Among these foci a great rôle is played by the so-called bacilli carriers, that is, individuals who, having experienced an attack of typhoid fever, still harbor in their intestinal canal typhoid bacilli and eliminate them in the stools. These persons are regarded as healthy, but are always in a position to convey the disease in a greater or less degree to other people by the germs which are excreted and which, by uncleanliness, contaminate drinking water, milk, etc.

The Campaign Against Tuberculosis.

A reduction of morbidity and mortality has been shown not only for acute infections, but also for the chronic. How greatly the mortality from tuberculosis has been reduced is strikingly shown in an address recently delivered before the Berlin Medical Society by B. Fränkel, a most careful investigator in this field. In 1886, 88,283 persons died of tuberculosis in Prussia; in 1906 only 64,459, that is, 17.26 per 10,000 inhabitants, instead of 31.14 in the year 1886. In 20 years the mortality from tuberculosis has undergone a reduction in Prussia of 13.88 per 10,000. As Fränkel points out, this remarkable reduction of the tuberculosis death rate coincides very closely in time with the discovery of the tubercle bacillus (1882), and with the introduction of the social legislation which was referred to in a former letter. Fränkel is of the opinion that industrial insurance has had a good influence in a social as well as in a therapeutic way, while the discovery of the exciting cause of the disease has made it possible to begin the fight against the disease at an earlier stage. Fränkel attributes special importance in the campaign against tuberculosis to the sanatoria which have become extraordinarily prevalent in Germany. According to the last business report of the German central committee for the campaign against tuberculosis, there are in Germany at present 99 popular sanatoria for adults affected with disease of the lungs. These have 10,539 beds, 6,500 for men and 4,039 for women; in addition there are 36 private sanatoria with 2,175 beds, so that in all, 12,714 beds for adult tuberculosis patients are available. For children with pronounced tuberculosis there are 18 sanatoria with 875 beds; besides there are 73 institutions, with 6,348 beds, in which are received only "scrofulous" children and those who are threatened with tuberculosis.

According to the business report of the German central committee, 31,022 insured persons were treated in the sanatoria during a total of 2,312,850 days of care, at a cost of 11,483.033 marks ($2,755,928). On an average, each person treated received 75 days of care at a cost of 370.16 marks ($88.84) or 4.96 marks ($1.19) per person for each day of care.

There is still some discussion among practicing physicians regarding the value of the popular sanatoria for the fight against tuberculosis, and there are not a few of the profession who are very skeptical, while others hold a more favorable opinion regarding the results of sanatorium treatment, but regard the cost as relatively too high. A conclusive judgment respecting this important question can be reached only after some time. Meanwhile it is worthy of note that, according to a statistical report from the imperial insurance office, of the persons treated for tuberculosis in 1902 and controlled by investigation five years later, the successful result established at the time of discharge was still present in 42 per cent. of the cases, and in 40 per cent. of the men alone; 20 per cent. of the total were invalid or dead.

Aside from the actual tuberculosis sanatoria, the so-called forest recreation stations (*Wald-Erholungsstätten*) are effective in the cure of tuberculosis and the fight against the disease. Of these there are about 80 in which those only slightly affected or convalescent pass the day and return to their homes at night. Besides these, there are in Germany at present 182 places for the information and care of tuberculous patients (*Auskunfts- und Fürsorge-Stellen für Tuberkulöse*) equivalent to tuberculosis dispensaries in which the patients and their families are advised and treated as ambulatory patients and by which the condition of their dwellings and their nutrition are kept under constant supervision, and similar philanthropic measures are carried out.

Of late forest schools for children have been established, in which the instruction is given in the woods, and the sick children have the opportunity during their schooling of being placed in the best of air. There are three such schools at present. Quite recently the attempt has been made to include lupus in the campaign against tuberculosis and under the egis of Althoff, the former "ministerial director," who in this, as in so many other directions, has been a pioneer, a commission for the campaign against lupus has been established by the German central committee, and several eminent experts have been appointed.

The Virchow Monument.

The tragico-comic incident of the Virchow monument seems to have entered on a new phase. According to a newspaper report, at the last meeting of the monument committee, the mayor proposed to separate the allegorical group from the monument and install the group in some park. The sculptor is to be required to make another monument which shall consist of a statue of Virchow himself. In this way, at any rate, Virchow will receive his monument at last.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

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(*Continued from page 237.*)

XVIII. PROTECTION AGAINST SUBSTITUTION.

Frequently—all too frequently—we are treated to the announcement that some druggist has been detected in the act of substitution; sometimes the entire pharmaceutical profession of a large city is thus arraigned. Manufacturers who demand extravagant prices for their products are especially loud in their denunciations, and adopt all sorts of devices for their "protection."

Naturally, these reports and accusations and rumors are often exaggerated. In some cases, the "substitution" is merely technical, or is not substitution at all, as in the so-called "investigation" of antiseptic powder, by which Mr. Tyree of Washington has recently tried to make capital. On the other hand, there is no doubt that substitution does exist, and will continue to exist, in spite of laws and statutes, so long as it is profitable. Manufacturers of the type of Mr. Tyree, set the example when they "substitute" whatever they please for the formula which they advertise; they tempt it when they exact unreasonable profits. Physicians point the way when they are lured by detail-men into prescribing equivalent, but ever-changing "brands" of the same product. Some "physicians" who belong by rights to another "profession," almost force the druggist to substitute when they deprive him of his legitimate pay by exacting a "percentage" on their prescriptions—a malpractice that is not as dead as it should be.

All this is in the way of explanation, not of excuse. The way of the pharmacist is beset with temptations—but this is the more reason why he should not yield. The public is obliged to trust pharmacists and physicians more than other men. Professional pride and tradition, and even enlightened self-interest, demand that this confidence should not be abused. Unfortunately, the profession of pharmacy is perhaps the least concern of some who deal in drugs; and with them the immediate profits of substitution outweigh all other considerations. The law should deal with these in such a way that they could no longer abuse the public, and if the law neglects its duty, the physicians should see to it.

The profession of pharmacy, in the highest sense, is not quite extinct; and the right sort of local medical society should have little trouble in ascertaining which of the local pharmacists are reliable, and it should make the information effective. The individual physician should have the courage of his convictions, and should unhesitatingly advise his patients against patronizing druggists whom he has good reason to distrust. If he considers himself so low in the estimation of his patients that he would not recommend a druggist for fear of the suspicion that he accepts the infamous percentage, then he owes it to his self-respect to teach the patient better things. But he should not invite that contemptible suspicion by accepting any gratuities from the pharmacists—not even that common but most petty "tip," free prescription blanks.

The protection afforded by such a direct attack on the substitution evil must be much better than the numerous proprietary devices. Their very number proclaims them ineffective, and they are all open to abuses. As I have pointed out in a previous chapter, the "original package," the "coined name," the distinctive monogram, even the distinctively shaped bottle—these are all much more effective for advertising than for protection. If the physician really deems Chap's hypophosphites superior to the official article, it *should* suffice to prescribe "Hypophosphites (Chap's)." If it does not suffice, then his *medical* society has a disagreeable but very necessary duty to perform.

(*To be continued.*)

Nostrums and the German Medical Press.

The *Münchener medizinische Wochenschrift* recently stated that it and certain other medical journals had rejected the advertisements of "leucrol," as this remedy was a "secret proprietary," and they preferred to exclude it from their advertising columns. The manufacturers objected to this statement and pointed with pride to their published formula. To this the *Wochenschrift* replies, June 23: "It is true that the firm publishes a formula for leucrol, but nevertheless the remedy belongs in the class of so-called secret remedies. The principal effective ingredient is said in the formula to be: 'Extract. Jubahar, the extract of an East Indian plant of the family of *Ranunculaceæ* much used medicinally by the natives.' Zernik's analysis of leucrol demonstrated the presence of cocoa, sugar and lemon juice, and the absence of any specially powerful ingredient. None of the authorities consulted had ever heard of the plant, and no reference could be found to it in the text-books or special botanic literature."

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION.]

EXAMINATION OF TABLETS OF BISMUTH, OPIUM AND PHENOL.

The Limitations of Tablet Compounding.

W. A. PUCKNER AND A. H. CLARK.

The demand for "palatable and convenient" medicaments has led manufacturing pharmacists to attempt to produce in tablet form mixtures which, from the nature of the case, are not suited to that method of compounding. In such cases it becomes a question as to what reliance the physician may place in such products and so an examination of a type of these preparations was made in the Association's laboratory.

Nearly every manufacturing pharmacist lists in his catalogue a tablet composed of bismuth, opium and phenol (carbolic acid). According to the price lists and labels, each tablet contains either five or three grains of bismuth subnitrate, one grain of aromatic powder, one-half grain of powdered opium and one-half grain (in one case one-eighth grain) of phenol.

Specimens of different makes of this tablet were purchased, in open market and from the manufacturer, and were examined to determine the amount of phenol each contained. A long series of experiments, the details of which will be published elsewhere, were carried out to determine the best method of estimating the amount of phenol in mixtures of this nature. The methods adopted are given below.[1]

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[1] Estimation of Phenol (Method A): A quantity of the powdered tablets containing not more than 0.175 gm. phenol was placed in a distilling flask and water sufficient to cover the powder added. The mixture was then acidulated with about 1 c.c. U. S. P. phosphoric acid and the distilling flask connected with a Liebig condenser and a current of steam driven through the flask. The distillation was continued until 250 c.c. of distillate was obtained. Of this distillate, 50 c.c. was measured into a 250 c.c. glass-stoppered flask and 25 c.c. standard bromin solution added, and the mixture acidulated with 5 c.c. hydrochloric acid. After standing one-half hour, the uncombined bromin was determined by adding potassium iodid T. S. and titrating the liberated iodin with standard thiosulphate V. S. As a typical example 8 tablets weighing 3.1045 gm. and calculated to contain 0.2592 gm. phenol were taken. Fifty c.c. of the distillate, representing 0.6209 gm. of the tablets and which should have contained 0.05184 gm. phenol, consumed 11.24 c.c. tenth-normal bromin V. S. Each c.c., being equivalent to 0.001556 gm. phenol, the 50 c.c. contained only 0.017489 gm. phenol, or 2.85 per cent. of the weight of the tablet. (Method B): The same procedure was followed as above outlined, except that the mixture of the powdered tablets and water was saturated with carbon dioxid and the distillation conducted with a brisk current of carbon dioxid passing through the distilling flask constantly.

The results here tabulated were obtained from the examination of specimens purchased direct from the manufacturer. At least one other specimen—bought in the open market—of each manufacturer was examined, the latter giving, in nearly every instance a lower figure, probably because it had been in stock longer. In the few cases in which the latter specimen gave a higher result, both findings are given

The essential point brought out by the table is, of course, that shown by the figures in Column 8—"Amount Found Expressed as Per Cent. of Amount Claimed." It should be realized that if the tablets contained the amount of phenol claimed, the numbers in this column would all be 100 But instead of this even the best specimen contained only 72.65 per cent., while some ranged as low as 12.66 per cent

	1	2	3	4	5	6	7	8
Manufacturer.	Weight of Heaviest Tablet in Gms[2]	Weight of Lightest Tablet in Gms[3]	Average Weight of Tablet in Gms[4]	Per Cent. Variation[5]	Per Cent. Phenol According to Formula on Label.[6]	Per Cent Phenol Found Method A.	Per Cent Phenol Found. Method B	Amount Found expressed as Per Cent of Amount Claimed[7]
Hance Bros and White	.4053	.3400	3833	17.03	8.45	1.81	1 85	21 89
W. S Merrell Chemical Co	5225	.5152	5142	1.42	6 30	3 02	—8 08	48 89
H. K Mulford & Co	4837	4569	.4752	5 64	1.72	.86	.90	52 34
Parke, Davis & Co (No. 1)	.5747	4993	5328	14 17	6 08	4.27	...	70 23
Parke, Davis & Co (No 2)	.5800	5245	.5518	10.06	5 87	2 76	2 74	47 02
Sharp & Dohme (No 1)	.3951	3742	3852	5 24	8 41	6 06	6 11	72 65
Sharp and Dohme (No 2)	.4213	.3544	3937	17 00	8 23	2 83	2 85	34 63
Frederick Stearns & Co	.5221	3690	4457	34.35	7 27	1 92	1 93	26 55
Truax, Greene & Co	.3428	2482	3232	29 27	10 03	1 38	1 36	13 69
H. K. Wampole & Co (No 1)	3646	.3417	3525	6 21	9 19	4 06	4.24	46 14
H K Wampole & Co. (No 2)	3670	3487	.3609	5 07	8 98	3 53	3 49	39 31
Wm R. Warner & Co	.2850	2397	2684	17 55	12 08	1 53	1.53	12 66

The comparative weights of the tablets also is interesting. While the difference in weight between the heaviest (Column 1) and the lightest (Column 2) tablet in one half the specimens, amounted to less than 10 per cent (Column 4) of the average weight (Column 3), in one instance the difference amounted to 34 35 per cent (Column 4).

These tablets are a typical illustration of the attempts to produce, in "elegant and palatable form," the impossible—impossible at least without care and expense. From the nature of the processes involved in the manufacture of a tablet, it is very difficult to produce one containing a definite amount of a volatile substance like carbolic acid. Accuracy in dosage is indispensable to the scientific administration of drugs In medicinal preparations of the type just described the essential —accuracy—is sacrificed for the merely desirable—convenience and palatability. To the extent to which physicians prescribe, as tablets, combinations of drugs that can not be successfully put up in that form, to that extent does scientific medicine suffer.

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[2] Ten tablets, or, if the variation proved to be great, 25 tablets, were separately weighed and the weight of the heaviest tablet recorded

[3] Ten tablets, or, if the variation proved to be great, 25 tablets, were separately weighed and the weight of the lightest tablet recorded

[4] One hundred tablets were weighed, and from this weight the average of a single tablet calculated

[5] These figures were obtained by dividing the difference in weight of the heaviest and lightest tablet by the average weight and multiplying this quotient by one hundred

[6] These figures were obtained by dividing the weight of phenol each tablet should contain by the average weight and multiplying this quotient by one hundred

[7] The figures given here are obtained by dividing the highest per cent. of phenol found by either method by the per cent of phenol indicated by the formula on the package and multiplying this quotient by one hundred.

Miscellany

Canned Mud from the Exploiters of Nostrums and Impure Foods.

The following from an editorial entitled "Canned Mud," in the *Druggists Circular*, July, is worth reading:

> Public opinion is a more or less plastic thing. Those who exert the most force on it usually succeed in shaping it to suit themselves—for the time being. Hence the "canneries." By "canneries" we mean those publicity bureaus which send out in convenient form ready-made editorials and other matter for the papers to print, and bring "influence" to bear on the papers to make them print this kind of literary product. . . .
>
> The federal Food and Drugs Act has been operative for about eighteen months. At first there was not much open opposition to its enforcement, for the law was aimed at fraud and deceit, and, in a way, for a manufacturer to oppose it was to seem to proclaim that he was opposed to a law which had for its principal object the suppression of lying labels on food and drug products. It may be those whose "vested rights" to defraud were to be most affected, believed at first that the law was, as one paper with a Shakespearian leaning had it, mere sound and fury, signifying nothing. But those "interests" reckoned without their host when they flattered themselves that Dr. Harvey W. Wiley—who had seen the necessity for the law as perhaps no other man had, and had striven long and hard for its enactment—would let his labors go for naught. In the eyes of these "interests" Dr. Wiley had been perniciously active He took the lead in executing a "confiscatory" law which said that morphin-laden soothing syrups, cocain laden catarrh snuffs, alcohol-laden bitters, acetanilid laden headache powders, and codein laden cough syrups which entered interstate commerce should be so labeled as to reveal their dangerous character. He was held responsible in the minds of certain manufacturers for the alternative which was presented to them of admitting damaging truths which they had been persistently denying, or going out of business He must be suppressed. It was actually getting so that it was risky for a real canner to add poisonous copper salts to his peas to give them a pretty green color and fresh appearance, or to put up bob veal and label it boneless chicken. In one instance an old and highly respected extract manufacturer was rudely brought into a court house and vulgarly fined five dollars for shipping some kind of a chemical combination under an extract of vanilla label. Such outrages could not be borne by self respecting business men. Something had to be done . .
>
> Now, had Dr. Wiley been a different kind of man from what he is, he would have heeded the uproar which his actions were causing and would have pursued a course easier for him and easier for the "interests"—never minding the rights of the people or the mandates of the law That is to

say, the course he would have pursued would have been easier for him *if* he had been the kind of a man that such a course would have been easier for. . . .

Seeing that he was not amenable to the kind of reasoning that guided their own line of conduct, those manufacturers whose "vested rights" to attach false and misleading labels to their goods had been invaded, were driven to adopt other means to gain their ends. Many of them were canners by trade, so for them to resort to the uses of "canned" methods of attack was but natural. We who read see the result. Let us quote from an article in the *Food Law Bulletin* by Read Gordon. Mr. Gordon says that he is a manufacturer of canned goods, but has refused to join any association to fight the enforcement of the Food and Drugs Act. While he takes issue with Dr. Wiley on the question of the harmfulness or harmlessness of certain food preservatives, he deprecates the creation of a "yellow dog" fund to be used in an underhand fight against the doctor. In the article referred to Mr. Gordon says: "No mere moral consideration will avail to prevent these 'interests' from criticizing Dr. Wiley in the most unfair, unmanly and savage spirit. Evidence of this is beginning to be seen in trade journals and the public press, and this sort of thing, if kept up long enough, will blast any man's reputation, unless he be so firmly fixed in public estimation that such attacks are like water on a duck's back. Unhappily there are but few of this kind." Mr. Gordon goes on to show how the "interests" can "raise funds for their purpose, employ the ablest legal talent, create public adverse opinion through a subsidized press, and drive the individual to despair."

This language reminds us of what we said about another institution whose work is opposed by certain "interests." When the American Medical Association created its Council on Pharmacy and Chemistry, whose duty it should be to examine the claims made for proprietary medicines and to put them to the test, the *Circular* said (in its issue for May, 1905, page 137): "With the aims and objects of this Council no honest man or woman can find fault. We need just such work accomplished, and we need it badly." We went on to say how much pressure would be exerted to control the actions of the Council, and to win the approval of its members by means other than deserving it, and added: "If it is concluded that they can not be won, that their presence on the Council is dangerous to a certain interest, then it becomes necessary to get them removed from the Council and have a pliant tool placed there. The powerful corporations that have much at stake will work for votes to make the change, and the character of the man that holds out most firmly against them will be quietly, steadily and surely undermined. If he is a man of original thought he will be pronounced a dangerous crank. Somehow—anyhow—they will seek to have him deposed. . . . Of course there will be none of this until the Council's work begins to tell. It is only in case of success that these things can happen."

The *Circular* goes on to remark that what was predicted has come to pass in a measure, although so far, it says, the innuendo and open vilification have been mainly against the chairman of the Council. In a similar way, the *Circular* remarks, attacks are now made on Dr. Wiley, chief chemist of the United States Department of Agriculture. "The campaign to turn public sentiment against him may be said to be well under way. He is to be besmirched with 'canned' mud. To borrow some of Mr. Gordon's forms of expression, the press bureau of misinformation is at work, sending out false rumors of possibilities, scraps of information that may be more or less true, but which are perverted, all indicating the starting of a movement having for its object the undoing of Dr. Wiley. When a man stands in the way of the 'interests,' the more of character, usefulness, ability and integrity he has, the more dangerous he is to the 'interests.'"

The Functions of the Hypophysis and the Pineal Gland.—In a communication to the Académie des Sciences, Paris, April 22 (*Progrès méd.*, May 4), M. de Cyon summarized the functions of the pituitary body and the pineal gland as follows: The hypophysis, according to his researches, is an autoregulator of the intracranial blood pressure. It also maintains the tonic excitation of the moderator nerves of the heart. The glandular portion produces two active substances which have to do with the proper functioning of the cardiac and vasomotor nervous apparatus, but only the hypophysis intervenes, indirectly through its active secretions, and directly by its action on the sympathetic and pneumogastric systems, in the organic changes in the tissues; it regulates the diuresis and exerts a certain action on the male sexual organs. The pineal gland acts chiefly in a mechanical way as a regulator of the afflux and reflux of the cerebrospinal fluid through the aqueduct of Sylvius; but its action is null on the blood pressure and very moderate on the cardiac nerves. Garnier and Thaon reported at the session of the Société de biologie, April 13 (*Progrès méd.*, May 4), the results of total extirpation of the hypophysis in twelve dogs. Progressive asthenia, torpor, extreme emaciation with paresis of the hinder limbs were produced, with death following on the sixteenth day.

Chloroform in Obstetrics.—Sir W. J. Sinclair, professor of Obstetrics and Gynecology, Victoria University, Manchester, in a paper read at a meeting of the North of England Obstetrical and Gynecological Society (*Lancet*, May 30, 1908, page 1541), says: "Chloroform as administered in obstetric practice, which was the prevailing use of it at first on account of Professor Simpson's influence, brought disappointments. Its shortcomings were soon fairly demonstrated, especially by Simpson's rivals, to be very much what the experience of half a century has taught us all to accept as the truth. The administration of chloroform had certain unfavorable effects on the pains of labor; when long continued it prevented firm contraction, and it produced postpartum hemorrhage, ending in hemostasis by thrombosis instead of by contraction, and consequent puerperal fever in the form of metrophlebitis. Although since then it has been abundantly proved that ether is in many ways a less harmful anesthetic than chloroform in obstetric practice, British conceit had no expression except the language of contempt for the opinion of American obstetricians who had almost universally adopted ether as the obstetric anesthetic."

The Beneficent Work of Medical Missions.—If, at Christmas time, we ask the man who has seen all that is worth seeing in the world what is the most beneficent work that he has witnessed in any quarter of the earth, he will probably name the work of the men and women who carry the gospel of Jenner and Pasteur and anesthesia. If he shall have faced the onsweep of a pestilence or watched beside a child whose throat was fast closing with a diphtheritic membrane, the work of the educator, the engineer, the philanthropist, even of the minister himself, will have shrunk into the commonplace beside the work of the physician. We are entitled to our individual estimates of the usefulness of the man who goes abroad with the Bible and hymn-book, but there can be little difference of opinion regarding the man or woman who carries his gospel in a surgical case, whose chapel is a thatched dispensary in an out-of-the-way place in the world. The doctor who goes a hundred or a thousand miles beyond the most distant hospital and practices his profession among an alien race—at a salary equal to that of a bookkeeper—certainly need envy no other man in any part of the world his opportunities for doing good.—Edgar Allen Forbes in *World's Work*, December, 1907.

Reduction of Fever by Prolonged Application of Ice to the Heart.—Deléarde and Dubois claim that prolonged application of ice to the heart, or precordial frigotherapy, as they call it, is effectual in reducing the temperature in fever. They have reported a number of case histories and much experimental research. The *Gazette Médicale Belge*, June 18, summarizes their communications which are all in favor of this local application of ice. The measure has been found especially effectual in typhoid, and they think it has no contraindications except in tuberculosis. They keep up the applications day and night, commencing them systematically at the beginning of fever, until the temperature is normal. Air forming as the ice melts must be allowed to escape or otherwise it may form an isolating layer. No antipyretics should be given with this frigotherapy, as the combined effect would be too powerful. The temperature does not fall immediately, generally not for ten or fifteen hours. If the pulse rate keeps high, this shows that the infectious condition persists, even after the temperature has returned to normal.

Contraindications for Massage of Abdomen.—In a communication to the *Zeitschrift für physik. u. diät. Therapie*, April,

1908. Boas urges more careful study of the possible contraindications in each case to avoid disaster from inconsiderate massage of the abdomen. In several cases in his experience a latent intestinal cancer was whipped up to a rapid growth and metastasis by massage of the region, and dormant gastric ulcers aroused. Occult blood should always forbid it. McBurney's point and the gall-bladder region should be carefully examined before massage of the abdomen is attempted, as appendicitis and cholelithiasis strictly contraindicate it. A history of cardialgia at any time, especially before or after pregnancy, increases the probability of latent gallstone trouble. Gynecologic affections must also be excluded, as also any affections of the liver, spleen and pancreas. Massage proves exceptionally beneficial, however, he says, after operations on the stomach, and he urges its more general use to improve motor conditions in the stomach after gastroenterostomy, etc. It should never be ordered, he reiterates, until the physician is certain of his diagnosis. Pain of any kind contraindicates it.

Improved Test for Quantitative Estimation of Albumin in Urine.—I. Tsuchiya writes from A. Schmidt's clinic at Halle to recommend the use of phospho-tungstic acid in place of the Esbach reagent. He has devised an albuminimeter for the purpose, which he describes and illustrates in the *Zentralblatt für innere Medizin*, June 13, 1908, p. 605. He advocates this technic as a great improvement over the Esbach method in simplicity and delicacy of the test. His article is entitled: *Die volumetrische Eiweissbestimmung mittels der Phosphorwolframsäure.*

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address; but the request of the writer not to publish name or address will be faithfully observed.

NERVE RESECTION FOR PAINFUL STUMP.

———, JULY 7, 1908.

To the Editor:—I have a case of sensitive and painful stump of the left leg below the knee. The sensation of pain seems to be in the area supplied by the external popliteal nerve. Would there be any injurious results following division of the peroneal nerve in the middle part? P. R. A.

ANSWER.—If the pain in the stump is limited entirely to the distribution of the external popliteal nerve no injurious results whatever can result from a division or, better still, a resection of this nerve. It is to be understood, of course, that the stump itself is in good condition—that is, is not a conical one, in which there is excessive growth of the bone or bad fixation of the flaps to the end of the bone, etc., in which case a reamputation might be better than a simple resection of the nerve.

TREATMENT OF BURNS BY RUBBER TISSUE.

DUBUQUE, IOWA, July 11, 1908.

To the Editor:—Where can I find articles describing the treatment of burns by enclosing them with rubber-tissue dressing? X. Y. Z.

ANSWER.—Consult the following articles:

Van Zandt, T. K.: Study of Burns, *Am. Pract. and News*, June, 1905; abst. under Therapeutics, THE JOURNAL A. M. A., Sept. 23, 1905, p. 939.

Johnson, J. W.: Treatment of Extensive Burn with Rubber-Tissue Dressing, *Northwest Med.*, June, 1907; abst. in THE JOURNAL A. M. A., July 27, 1907, p. 354.

POSSIBLE TUBERCULIN REACTION FROM TUBERCULOUS CHICKEN.

GRINNELL, IOWA, July 18, 1908.

To the Editor:—Light on the following case will be greatly appreciated: A child, 4 years of age, was well till three months ago when tubercular peritonitis developed. Family history is negative. The child did well under treatment until, having eaten tuberculous chicken, marked rise in temperature resulted in 12 hours. The question is whether or not the tuberculous chicken caused the fever by reason of the tuberculin reaction. O. F. PARISH.

PERFORATION IN TYPHOID FEVER.

Dr. Francis D. Patterson, 2103 Locust St., Philadelphia, desires the details of any hitherto unreported cases of perforation in typhoid fever.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending July 18, 1908:

Carter, E. C., lieut. col., M. C., relieved from duty at Ft. Leavenworth, Kansas., and ordered to duty at the expiration of his present leave of absence, at Ft. Sheridan, Ill.

Munson, E. L., major, M. C., when relieved at Ft. Sheridan, Ill., ordered to duty as instructor in the care of troops at the Army Staff College, Ft. Leavenworth, Kans.

Harris, H. S. T., major, M. C., ordered to duty at the expiration of his present leave of absence at Ft. Leavenworth, Kans.

Page, Henry, Clayton, J. B., Shimer, I. A., Manly, C. J., Ashford, B. K., Chamberlain, W. P., Hartsock, F. M., Webber, H A., Schreiner, E. R, Duval, D. F., and Baker, David, captains, M. C., promoted to be majors in the Medical Corps, with rank from April 23, 1908.

Huntington, P. W., capt., M. C., left Ft. Rosecrans, Cal., on leave of absence for three months.

LaGarde, L. A., lieut.-col., M. C., returned to Chief Surgeon's office, Denver, Colo., from leave of absence.

Bosley, J. R., capt., M. C., ordered to duty with First Infantry, en route to and at camp at American Lake, Wash.

Raymond, T. U., major, M. C., left Ft. Logan, Colo., with 21st Infantry, for camp near Ft. D. A. Russell, Wyo.

Baily, H. H., capt., M. C., ordered to Ft. Wayne, Mich., for temporary duty, and return.

Woodbury, F. T., capt., M. C., arrived at San Francisco, from Philippine service, and granted leave of absence for two months.

Lowe, T. S., contract surgeon, arrived on the *Sheridan* from Philippine service, and ordered from San Francisco to Vancouver Barracks, Wash., for duty in Dept. of the Columbia.

Dougherty, J. C., Newlove, Geo., Eber, A. H., and White, J. S., arrived at San Francisco on the transport *Sheridan* for leave of absence from the Philippines Division.

Porter, E. H., contract surgeon, ordered from Ft. Worden, Wash., to Ft. Casey, Wash., for temporary duty.

Card, D. P., contract surgeon, granted leave of absence for one month.

Yemans, H. W., contract surgeon, ordered, at the expiration of his present leave of absence, to Ft. Wayne, Mich., for duty.

Weston, H. R., contract surgeon, relieved from duty at Ft. Ethan Allen, Vt., and ordered to Manila, P. I., for Philippine service.

Graves, L. K., contract surgeon, relieved from further duty in the Philippines Division, and ordered to Whipple Barracks, Ariz., for duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending July 18, 1908:

Lee, A. E., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the *Concord*.

Eytinge, E. O. J., asst.-surgeon, detached from the *Concord* and ordered to the *Ranger*.

Alexander, C. E., pharmacist, appointed pharmacist from July 10, 1908; ordered to the *Relief*.

Harmon, G. E. H., medical director, detached from the Naval Academy and ordered to temporary duty in command of the Naval Medical School Hospital, Washington, D. C.

Kerr, W. M., acting asst.-surgeon, detached from the Naval Hospital, New York, and ordered to the Naval Hospital, Norfolk, Va.

Snyder, J. J., surgeon, detached from the *New Hampshire* and ordered to the *Franklin*.

Randall, R. C., asst.-surgeon, detached from the second torpedo flotilla and ordered to the *Solace*.

Biello, J. A., asst.-surgeon, detached from the *Solace* and ordered to the Pacific torpedo fleet.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and other officers of the Public-Health and Marine-Hospital Service for the fourteen days ended July 15, 1908:

Guiteras, C. M., surgeon, detailed to represent the service at the 5th Pan-American Medical Congress at Guatemala, Aug. 6-10, 1908.

Wertenbaker, C. P., surgeon, leave of absence granted for three days from July 1, 1908, ammended to read 1 day.

Goldberger, Joseph, P. A. surgeon, granted leave of absence for one month, from July 20, 1908.

Ward, W. K., P. A. surgeon, granted leave of absence for one day, June 16, 1908, under Paragraph 191, Service Regulations.

Ward, W. K., P. A. surgeon, relieved from duty at Ellis Island and directed to proceed to Manila, P. I., reporting to the chief quarantine officer for duty.

Creel, R. H., P. A. surgeon, granted leave of absence for two months from Aug. 3, 1908.

Krulish, E., asst.-surgeon, granted leave of absence for 20 days from July 6, 1908.

Hart, L., asst.-surgeon, temporarily relieved from duty at Stapleton, N. Y., and directed to proceed to Washington, D. C., reporting to the director of the Hygienic Laboratory for temporary duty.

Wilson, J. G., acting asst.-surgeon, granted leave of absence for three days from June 16, 1908, under Paragraph 210, Service Regulations.

Glennan, A. H., asst.-surgeon-general, granted leave of absence for twenty-eight days from July 22, 1908.

Wickes, H. W., P. A. surgeon, directed to proceed to Brunswick Quarantine Station, Georgia, for special temporary duty, on completion of which to rejoin station.

Parker, H. B., P. A. surgeon, granted leave of absence for one month from Aug. 1, 1908.

Ward, W. K., P. A. surgeon, granted leave of absence for seven days from July 14, 1908, under Paragraph 191, Service Regulations.

Trask, J. W., P. A. surgeon, granted leave of absence for 27 days from Aug. 3, 1908.

Manning, H. M., asst.-surgeon, directed to report to the director, Hygienic Laboratory, for temporary duty.

Manning, H. M., asst.-surgeon, granted leave of absence for three days from July 12, 1908.

Salmon, T. W., asst.-surgeon, directed to report to chairman of Board of Examiners in Washington, D. C., July 20, 1908, to determine his fitness for promotion to grade of P. A. surgeon.

Ashford, F. A., asst.-surgeon, directed to report to P. A. Surgeon Foster, San Juan, Porto Rico, for examination for promotion to grade of P. A. surgeon.

Pettyjohn, Jos., asst.-surgeon, directed to report to the chairman of Board of Examiners, Manila, P. I., to determine his fitness for promotion to grade of P. A. surgeon.

McKeon, F. H., asst.-surgeon, directed to report to chairman of Board of Examiners, Manila, P. I., to determine his fitness for promotion to grade of P. A. surgeon.

Sweet, E. A., asst.-surgeon, directed to report to the chairman of a Board of Examiners at San Francisco, Cal., July 20, 1908, to determine his fitness for promotion to the grade of P. A. surgeon.

Spratt, R. D., asst.-surgeon, directed to report to the Chairman of Board of Examiners at Washington, D. C., July 20, 1908, to determine his fitness for promotion to the grade of P. A. surgeon.

Altree, G. H., acting asst.-surgeon, excused from duty without pay for two months from June 4, 1908.

Carter, P. I., acting asst.-surgeon, granted leave of absence for four days from July 6, 1908, under Paragraph 210, Service Regulations.

Nute, A. J., acting asst.-surgeon, granted leave of absence for sixteen days from Aug. 4, 1908.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for seven days from July 14, 1908.

Seavey, L. T., acting asst.-surgeon, granted leave of absence for twenty-one days from July 25, 1908.

Spohn, A. E., acting asst.-surgeon, granted leave of absence for thirty days from Aug. 1, 1908, and excused without pay Aug. 31 to Oct. 31, 1908.

Tappan, J. W., acting asst.-surgeon, granted leave of absence for twenty days from July 8, 1908.

Walker, T. D., acting asst.-surgeon, granted leave of absence for eight days from June 25, 1908.

APPOINTMENT.

Dr. Henry C. Richter, of Pennsylvania, was on July 7, 1908, appointed an acting asst.-surgeon for duty at Calexico, Cal.

BOARDS CONVENED.

A board of medical officers was convened to meet at Seattle, Wash., for the purpose of examining certain alien immigrants. Detail for the board: P. A. Surgeon M. W. Glover, chairman; Asst.-surgeon C. W. Chapin, recorder.

The board of medical officers convened to meet in San Francisco, on July 6, 1908, to examine asst.-surgeons for promotion to the grade of P. A. surgeon, was re-convened to meet July 20, 1908. Detail for the Board: Surgeon H. W. Austin, chairman; P. A. Surgeon Rupert Blue; P. A. Surgeon W. W. King, recorder.

A board of medical officers was convened to meet in Manila, P. I., to examine assistant surgeons for promotion to the grade of P. A. surgeon. Detail for the Board: P. A. Surgeon V. G. Heiser, chairman; P. A. surgeon T. B. McClintic; P. A. Surgeon A. J. McLaughlin, recorder.

A board of medical officers was convened to meet in Washington, D. C., July 20, 1908, to examine asst.-surgeons for promotion to the grade of P. A. surgeon. Detail for the board: Asst. Surgeon-Gen. W. J. Pettus, chairman; P. A. Surgeon A. M. Stimson; P. A. Surgeon J. W. Trask, recorder.

Boards of medical officers were convened to meet on July 13, 1908, for the purpose of examining officers of the Revenue Cutter Service for promotion, as follows:

Baltimore: Surgeon L. L. Williams, chairman; P. A. Surgeon J. T. Burkhalter, recorder.

New York: P. A. Surgeon J. A. Nydegger, chairman; P. A. Surgeon C. H. Lavinder, recorder.

Boston: Surgeon R. M. Woodward, chairman; Acting Asst.-Surgeon F. H. Cleaves, recorder.

San Juan, P. R.: P. A. Surgeon M. H. Foster, chairman; Acting Asst.-Surgeon P. del Valle Atilles, recorder.

Chicago: Surgeon G. B. Young, chairman; Asst.-Surgeon C. E. Wood, recorder.

Mobile: Surgeon G. M. Guiteras, chairman; Acting Asst.-Surgeon C. S. Carter, recorder.

Detroit: Surgeon Fairfax Irwin, chairman; Acting Asst.-Surgeon E. W. Mooney, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 10, 1908:

SMALLPOX—UNITED STATES.

California: Los Angeles, June 20-27, 2 cases; San Francisco, 6 cases.

Washington: District of Columbia, June 20-27, 1 case.

Illinois: Chicago, June 20-27, 2 cases; Jacksonville, June 1-30, 10 cases; Springfield, June 18-July 2, 3 cases.

Indiana: Fort Wayne, June 14-29, 3 cases; Indianapolis, June 21-28, 3 cases, 1 death; La Fayette, June 30-July 6, 1 case; South Bend, June 30-July 4, 1 case; Terre Haute, June 20-27, 1 case.

Iowa: Cedar Rapids, June 1-30, 4 cases.

Louisiana: New Orleans, June 29-July 4, 5 cases.

Michigan: Saginaw, June 20-27, 1 case.

Minnesota: Winona, June 20-27, 1 case.

Missouri: Kansas City, June 27-July 4, 1 case; St. Joseph, June 20-27, 2 cases.

North Carolina: Charlotte, June 20-27, 1 case.

Ohio: Cincinnati, June 26-July 3, 1 case; Dayton, June 27-July 4, 3 cases; Toledo, June 13-20, 4 cases; Topeka, 3 cases.

Tennessee: Knoxville, June 20-27, 1 case.

Texas: San Antonio, June 27-July, 2 cases.

Washington: Spokane, June 20-27, 6 cases.

Wisconsin: La Crosse, June 13-July 4, 7 cases; Milwaukee, 8 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, May 9-23, 29 cases, 21 deaths.

SMALLPOX—FOREIGN.

Brazil: Bahia, May 1-31, 114 cases, 5 deaths; Rio de Janeiro, May 24-June 14, 717 cases, 266 deaths.

China: Hongkong, May 16-23, 8 cases, 5 deaths; Shanghai, May 24-June 14, 3 cases (foreign).

Ecuador: Guayaquil, June 6-13, 1 death.

Egypt: Cairo, June 3-17, 16 cases, 2 deaths.

France: Paris: June 13-20, 2 cases; Toulon, May 1-31, 1 case.

Germany: General, June 6-20, 10 cases; Bremen, May 23-June 6, 3 cases.

India: Bombay, May 25-June 9, 45 deaths; Calcutta, May 16-23, 12 deaths; Madras, May 23-29, 1 death.

Italy, general; June 14-21, 20 cases; Naples, June 6-20, 12 cases.

Japan: Kobe, May 31-June 6, 4 cases; Osaka, May 16-30, 46 cases, 28 deaths.

Mexico: Aguas Calientes, June 14-27, 4 deaths.

Portugal: Lisbon, June 20-27, 4 cases, 2 deaths (imported).

Russia: Batoum, May 1-31, 1 case; Moscow, June 6-13, 17 cases, 11 deaths; Riga, June 20-27, 1 case; St. Petersburg, June 6-13, 54 cases, 11 deaths; Warsaw, May 9-16, 4 deaths.

Siberia: Vladivostok, May-21-June 4, 4 cases.

Spain: Valencia, June 6-20, 25 cases, 1 death.

Straits Settlements: Singapore, May 16-23, 1 death.

Turkey: Constantinople, June 7-21, 7 deaths.

YELLOW FEVER.

Brazil: Manaos, May 31-June 13, 3 cases, 3 deaths; Para, June 6-20, 5 cases, 5 deaths; Rio de Janeiro, May 31-June 7, 2 cases, 2 deaths.

Cuba: Daiquiri, July 11-13, 4 cases.

Ecuador: Guayaquil, June 6-13, 2 deaths.

Mexico: Frontera, July 12, 1 case; Veracruz, 2 cases, 1 death.

Philippine Islands: Provinces, Capiz, May 9-23, 100 cases; Pangasinan, 100 cases.

CHOLERA.

India: Bombay, May 25-June 2, 1 death; Calcutta, May 16-23, 71 deaths; Madras, May 23-29, 5 deaths; Rangoon, May 16-30, 21 deaths.

PLAGUE.

Brazil: Rio de Janeiro, May 24-June 14, 1 case.

China: Hongkong, May 16-23, 114 cases, 95 deaths.

Ecuador: Guayaquil, June 6-13, 5 deaths.

Egypt: General, June 11-25, 102 cases, 45 deaths; Alexandria, 7 cases, 3 deaths.

Formosa: May 23-June 6, 212 cases, 180 deaths.

India: General, May 16-30, 5,300 cases, 4, 360 deaths; Bombay, May 25-June 9, 218 deaths; Calcutta, May 16-23, 79 deaths; Madras, May 23-29, 1 death; Rangoon, May 16-30, 82 deaths.

Japan: Kobe, May 23-30, 1 case, 1 death.

Peru: Callao, June 6-13, 1 case.

Trinidad: June 22, 1 death.

Venezuela: Caracas, June 20-21, 4 cases, 2 deaths; June 21-27, 6 cases, 1 death; La Guaira, June 16-19, 5 cases, 1 death.

Straits Settlements: Singapore, May 16-23, 1 death.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Meritorious Bills Introduced by Congressman Mann.

Hon. James R. Mann, of Illinois, has introduced into the House of Representatives two bills of interest to physicians and druggists and of the greatest importance to the public, which we quote in full:

A Bill relating to the transportation of habit-forming and poisonous drugs in interstate and foreign commerce, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That hereafter it shall be unlawful for any person, firm, company, corporation, or association to deposit in the mails, or to send by mail any alpha or beta eucain, chloral hydrate, cocain, hyoscin, morphin, opium, scopolamin, or any derivative or preparation of any of the foregoing substances, except on the original prescription or written order of a legally authorized practitioner of medicine, dentistry, or veterinary medicine.

Provided, however, that the foregoing provisions shall not apply to articles sent in the ordinary course of business from manufacturers, jobbers, or wholesale dealers to registered retail druggists, legally authorized practitioners of medicine, dentistry, or veterinary medicine, to manufacturers of medicinal remedies or pharmaceutical preparations, to hospitals, colleges, scientific and public institutions, or to each other.

Sec. 2. That any person, firm, company, corporation, or association violating any of the provisions of this paragraph shall be deemed guilty of a misdemeanor and on conviction may be fined not exceeding $100 for each offense, and on conviction for each offense subsequently committed may be fined not exceeding $500 or be imprisoned not exceeding one year, or both such fine and imprisonment in the discretion of the court.

A Bill relating to the transportation of habit-forming and poisonous drugs in interstate and foreign commerce, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That it shall be unlawful for any person, firm, or corporation to send, carry, ship, or bring into any state, territory, or the District of Columbia, by frieght, express, mail, or otherwise, from any other state, territory, or the District of Columbia, or from any foreign country, directly to a consumer, or to sell, or furnish, or give away, or have in his or her possession, except as provided for in this section, in the territories or the District of Columbia, any alpha or beta eucain, chloral hydrate, cocain, hyoscin, morphin, opium, scopolamin, or any derivative or preparation of any of the foregoing substances, except on the original prescription or written order of a legally authorized practitioner of medicine, dentistry, or veterinary medicine, which prescription or order shall be dated and shall contain the name of the person for whom prescribed, or if ordered by a practitioner of veterinary medicine shall state the kind of animal for which ordered and shall be signed by the person giving the prescription or order. Such written prescription or order shall be kept on file for a period of not less than three years by the person, firm or corporation who shall compound the article or articles prescribed or ordered, and it shall not again be compounded or dispensed except on the written order of the original prescriber for each and every subsequent compounding and dispensing. In no case, however, shall the original prescription or written order, for a human being, call for more than one-fourth of one ounce of chloral hydrate or more than one-eighth of one ounce of alpha or beta eucain, cocain, hyoscin, morphin, opium, scopolamin, or corresponding amounts of any derivative of the above-named substances, whether simple, mixed, or compounded into any preparation; and when two or more of any of the above ingredients are prescribed together the combined total quantity of such substances prescribed must not exceed one-eighth of one ounce. The above original prescriptions and written orders shall be subject to inspection at all times by any federal or state official delegated by the Secretary of Agriculture.

Provided, however, that the above provisions shall not apply to sales at wholesale by jobbers, wholesalers, and manufacturers to registered retail druggists or to each other, or to sales made to manufacturers of medicinal remedies or pharmaceutical preparations for use in the manufacture of such preparations, nor to sales to hospitals, colleges, scientific and public institutions.

Sec. 2. That no person, firm or corporation shall send, carry, ship, import, or bring into any state, territory, or the District of Columbia, by freight, express, mail, or otherwise, from any other state, territory, or the District of Columbia, or receive for shipment into any state, territory, or the District of Columbia or sell or furnish or give away in the territories or the District of Columbia any of the following-described substances, to wit: The caustic hydroxids of ammonium, potassium and sodium; the concentrated mineral acids; the essential oils of bitter almonds, pennyroyal, rue, and savin; wood alcohol and yellow phosphorus or any preparation or compound containing the same; the salts and derivatives of antimony, arsenic, barium, chromium, copper, gold, lead, mercury (excepting calomel), silver, and zinc, or any preparation or compound containing the same; the following-named substances and their derivatives or any compound or preparation containing the same, namely, acetanilid, acetphenetidin, aconite, antipyrin, belladonna, cannabis indica, cantharides, carbolic acid, chloral hydrate, chloroform, coculus indicus, codein, colchicum, conium, cotton root, creosote, croton oil, damiana, diacetyl morphin, digitalis, ergot, formaldehyd, hydrocyanic acid, hyoscin, hyoscyamus, ignatia, laudanum, lobelia, morphin, nux vomica, opium, oxalic acid, paregoric, Paris green, phenacetin, physostigma, phytolacca, pyramadon, scopola, stramonium, strophanthus, strychnin, sulphonal, tansy, trional, veronal, veratrum viride, or any other virulent poison, unless the bottle, box, carton, or any other package, including any wrapper or covering, containing any of the above-named substances, compounds, preparations, or derivatives is labeled and such label is printed on red paper in distinct white letters or in distinct red letters on white paper, with the word "Poison" in letters not less in size than any other letters used on the label, and in no case smaller than required by regulation seventeen (c) of the rules and regulations for the enforcement of the Food and Drugs Act of June 30, 1906, and the skull and crossbones device, together with the names of one or more suitable antidotes and the name and address of the person, firm, or corporation manufacturing, shipping, importing, or selling the same

Sec. 3. That any person, firm, or corporation violating any of the provisions of this act shall be guilty of a misdemeanor, and for such offense shall be fined not exceeding $200 for the first offense and, on conviction, for each subsequent offense not exceeding $300, or be imprisoned not exceeding one year, or both such fine and imprisonment, in the discretion of the court.

The passage of these bills will not in any way interfere with the legitimate business of physician, manufacturer, wholesale druggist or pharmacist since all such business is expressly exempt. It will prevent and is evidently designed to prevent irresponsible persons—and it will check some of the advertising quacks especially—from carrying on a mail order business and sending out medicinal preparations containing habit-forming or dangerous drugs, abortifacients and other preparations used by quacks and swindlers. If these bills become laws the sale to the public of dangerous drugs will be limited to the pharmacists and the distribution of such preparations by irresponsible parties will be prohibited. Since these bills were introduced, editorials and comments have appeared in several of the drug journals calling on druggists to oppose their passage. Certainly the writers of such notices were either ignorant of the provisions of the bills or else were more interested in the business prospects of the proprietary manufacturer engaged in the mail order business than they were in the retail druggists. The bills proposed can not possibly affect the wholesale or retail pharmacist nor can they touch his business in any way. They are simply designed to stop mail order business in dangerous drugs and should have the support and endorsement of all physicians and druggists, as well as all others interested in the protection of public health.

County Milk Commissions.

An editorial in the July *Ohio State Medical Journal* on "The Medical Milk Commission" points out that the work of securing pure milk for the public is essentially a county society function and that it is the duty of every county society to see that steps are taken to control and supervise the milk supply. Dr. Henry L. Coit of Newark, N. J., in 1892, inaugurated through the Essex County Medical Society a local medical milk commission and adopted the term "certified milk" to designate milk which had been inspected by the milk commission and approved.

This work opens up a field of usefulness for county societies which will quickly and positively demonstrate to the public the value of proper medical organization. Few communities can be so dense or so ignorant as not to realize the value of a pure milk supply for the babies and young children. A commission of representative medical men of the county can formulate rules to be observed by dairymen and milk dealers and can by proper inspection secure the enforcement of these rules. Dealers complying with the requirements can be given a certificate and the physicians of the county, by advising their patients and families to purchase only certified milk, the purity of which is assured, can practically regulate the milk business of the county.

Such work is so manifestly unselfish and philanthropic on the part of physicians that it can not fail to secure public support.

The Duty of Physicians in Prohibition States.

At the recent session of the Medical Society of the State of North Carolina, Dr. J. Howell Way, the retiring president, presented a series of resolutions regarding the enforcement of the state law regulating the sale of liquors except on physicians' prescriptions and stating that, in view of the confidence shown by the public in the medical profession in placing in the hands of physicians the right to prescribe liquor at their discretion, the Medical Society of the State of North Carolina condemns as unprofessional and grossly immoral any lax or unfaithful conduct on the part of its members in this particular; that all physicians be urged to aid in the enforcement of the law and in building up a public sentiment that will insure protection against illegal traffic in intoxicating liquors and that the Board of Medical Examiners of the state be urged to revoke the license of any physician proved guilty of prescribing intoxicants unnecessarily. The resolutions were unanimously adopted and were ordered printed in the newspapers of the state.

Two Years of Postgraduate Work.

Dr. Wilfred Haughey, the retiring president of the Battle Creek (Mich.) Medical Club reports a most successful year's work. This club is an adjunct of the Calhoun County Medical Society and organized for the purpose of taking up the postgraduate course of study. During the past year, which has been the second year of postgraduate work for the club, forty two meetings have been held with an average attendance of over fifteen, or twice the attendance of last year. In only a single instance has a member on the program been absent. *The members of the club are greatly pleased with the plan of postgraduate work.*

As pointed out in this department in a previous issue, the organization of local clubs for postgraduate scientific work can be made a valuable adjunct of county societies, so long as the club is an adjunct and not a rival of the county society. Valuable as its work is, it should not be allowed to take the place of the larger organization. While more frequent meetings of the local clubs are possible, they should be utilized as feeders for the regular meetings of the county society, the best papers on the programs being repeated before *the larger audiences of the county society.* Caution is necessary in this particular lest we unconsciously drift again into the condition of innumerable medical societies, indefinite in affiliation and responsibilities and overlapping in jurisdiction, from which the reorganization movement has well nigh freed us. The same caution is necessary in large cities in which district or branch societies have been organized, lest, owing to the greater interest of the general practitioner in his district or local society, interest and enthusiasm for the main or county society be allowed to wane. The essence of our present plan of organization which has accomplished so much and *which is capable of far greater things is the trinity of medical organizations*—the county society, the state association and the national association.

Reorganization in Maine.

Dr. W. B. Moulton, the newly elected secretary of the Maine Medical Association, reports that at the annual meeting of that body held in June a new constitution and by laws were adopted, providing for the organization of component county societies and for the establishment of a delegated legislative body for the state association.

The adoption of these two features, the essentials of the reorganization plan, places Maine in the column of reorganized states and inaugurates a new order of things in medical organization in that state. From observation of results in other states it can be asserted positively that the next five years will witness greater achievements along every line on the part of the medical profession of Maine than have been secured in any twenty years heretofore. The establishment of county societies will afford an opportunity to every physician in the state to keep in touch with medical organization and progress and will weld the profession of the state into a single harmonious and useful body. *A number of inquiries* have already been received regarding the method of organizing county societies, the different lines of work to be taken up, etc. We congratulate the physicians of Maine on this achievement for we know that it will be the beginning of a new day for the people and the physicians of that state.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and *literature to any county society desiring to take up the course.*]

Eleventh Month.

Second Weekly Meeting.

Uremia.

Etiology.

Occurrence in nephritis, in obstruction of ureter, compression of renal vessels, cholera, etc.

Theories of Causation: (a) Retention or accumulation of excretory products, gradual or rapid, character of poisons. Bouchard's views. (b) Traube's views, localized or general edema of brain.

Symptoms:

Distinguish between acute and chronic uremia. Cerebral symptoms, slight to extreme; headache, somnolence, stupor and coma, or acute delirium. Convulsions, character, onset, severity, course, duration. Amaurosis and deafness. Respiratory symptoms, dyspnea. Gastrointestinal symptoms. Pulse, rate and tension; temperature, urine.

Hematuria and Hemoglobinuria.

Hematuria.

Etiology: Renal causes: inflammations, infarction, calculi and pyelitis, tuberculosis, malignant disease, parasites. Traumatism.

Affections of urinary tract: (a) Ureter, calculi, traumatism; (b) bladder, calculi, malignant tumors, acute cystitis, varicose veins; (c) urethra, gonorrhea, calculi, parasites, traumatism.

General diseases: Acute specific fevers, blood dyscrasiae, chronic heart, lung or liver disease.

Diagnosis: 1. Presence of blood; color, sediment, chemical tests (Heller's, guaiacum). Microscopic examination. Spectroscope. 2. Source of hemorrhage; mixture with urine, clot, molds, casts. Cystoscope, *ureteral catheterization.*

Hemoglobinuria.

Toxic: (a) Poisons; carbolic and pyrogallic acids, potassium chlorate, naphthol, phosphorus, carbon dioxid. (b) Poisonous fungi, muscarin. (c) Infectious *diseases,* scarlet fever, typhoid, malaria, syphilis, yellow *fever,* purpura. (d) Cold and *exertion.* (e) Burns, absorption of hemorrhagic effusion, transfused blood. (f) Epidemic hemoglobinuria in infants.

Paroxysmal. Sex, *age,* cold, *exhaustion. Association with* Raynaud's disease. Pain, gastric *disorders,* jaundice. Urine; color, reaction, blood tests. Microscopic examination. Methemoglobin.

Marriages

John Hunt, M.D., Seattle, Wash., to Miss Grace Portrais, recently.

James W. Hadley, M.D., to Miss Ethel Stoms, both of Frankfort, Ind., July 2.

X. P. DeDonató, M.D., Georgetown, Wash., to Miss Flora Agnes Corgeat, June 11.

Hiram B. Tebbetts, M.D., to Mrs. Harriet Baurman, both of Los Angeles, June 20.

Jacob Silbermann, M.D., to Miss Jessie Stern, both of Cleveland, Ohio, June 28.

Schuyler A. Whitsitt, M.D., to Miss Margaret Crosby, both of Kent, Ind., June 24.

Amos G. Reese, M.D., Williamsport, Pa., to Miss Helen Rounds of Sayre, Pa., July 2.

John Hunt Shephard, M.D., to Miss Vera Nevers, both of Cœur d'Alene, Idaho, June 25.

Thomas Ralph Castle, M.D., LeMars, Iowa, to Miss Edna Pabst of Albia, Iowa, June 24.

William A. Shepherd, M.D., to Miss Minnie M. Mattis, both of Seymour, Wis., July 1.

Ernest Charles Straus, M.D., to Miss Elsie Leszinsky, both of Louisville, Ky., July 9.

Anthony P. Donohoe, M.D., to Miss Kathryn McCormack, both of Davenport, Iowa, June 25.

Vance W. Waterman, M.D., *Vergennes,* Vt., to Miss Mary A. Riker of Newark, N. J., June 24.

Clarence Nicholas McCumber, M.D., to Miss Iva Maud Rice, both of Lewiston, Ill., June 30.

Lorin C. Knee, M.D., to Miss Anna M. Koenig, both of Lawton, Okla., at Oklahoma City, July 2.

Gilford Lyne Sobey, M.D., to Miss Katharine Bayard Douglas, both of San Francisco, April 19.

George Lewis Wickes, M.D., U. S. Navy, to Miss Marjorie Lindsay Appel of Cheyenne, Wyo., July 8.

Harry Hill Van Kirk, M.D., U. S. Army, to Miss Henrietta Clark Jordan, at New York, June 24.

A. Paul Traywick, M.D., Cameron, S. C., to Miss Janie May Crute of Buckingham County, Va., June 24.

Roy G. Swinney, M.D., Troy, Iowa, to Miss Minnie Shaw of Bloomfield, Iowa, at Ottumwa, Iowa, July 1.

George H. Kennett, M.D., Kellogg, Idaho, to Miss Perle Schmalhausen of Missoula, Mont., in Idaho, June 24.

James W. Stribling, M.D., Dickinson, N. D., to Miss Frances Archibald of Jamestown, N. D., at Spiritwood Lake, June 24.

Preston Pope Satterwhite, M.D., New York, to Mrs. James E. Martin, Sr., of Martin Hall, near Great Neck, Long Island, July 7.

Deaths

Walter P. Hanning, M.D. Ohio Medical University, Columbus, 1903; of Nelsonville, Ohio; a member of the Ohio State Medical Association; died at St. Anthony's Hospital, Columbus, July 8, after an operation for gallstones, aged 29.

Lewis Barnes, M.D. University of Buffalo Medical Department, 1851; a member of the Connecticut State Medical Society; for many years health officer of Oxford, Conn.; died at his home in that place, July 5, of apoplexy, aged 84.

Winfield Scott Phillips, M.D. University of Vermont, College of Medicine, 1867; a member of the American Medical Association; for forty years a general practitioner in Arlington, Vt.; died at his home May 14, from myocarditis, aged 66.

Maximilian Frederick Charles Drescher, M.D. Long Island College Hospital, Brooklyn, 1891; a member of the Medical Society of the State of New York; died at his residence in South Brooklyn, July 7, from heart disease, aged 51.

Andrew McP. Cheeseman, M.D. Jefferson Medical College, Philadelphia, 1848; formerly of Philadelphia; died at Bethesda Hospital, Cincinnati, June 30, after an illness of five months of heart disease, aged 83.

Samuel N. Walker, M.D. University of Louisville Medical Department, 1877; a retired physician of Baldwyn, Miss.; died at his home in that town, July 7, after an illness of several weeks, aged 66.

J. J. Washington, M.D. Medical College of Alabama, 1880; a member of the American Medical Association; of Pass Christian, Miss.; died at his home, July 8, of heart disease, aged 56.

Alfred McLaughlin, M.D. Medical Department of the University of California, 1896; of San Francisco, who had been in failing health for some time; died at Pleasanton, aged about 37.

John Franklin Reiley, M.D. Missouri Medical College, 1896; a member of the Missouri State Medical Association; died at his home in West Plains, Mo., of cerebral hemorrhage, aged 36.

Beatrice Magdalene Curran, M.D. Woman's Medical of Pennsylvania, 1904; died at her home at South Hadley Falls, Mass., July 10, from valvular disease of the heart, aged 27.

Augustus R. Edmonds, M.D. St. Louis College of Physicians and Surgeons, 1884; a veteran of the Civil War; died at his home in Miami, Mo., July 7, after a lingering illness, aged 64.

James Hoffman, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1885; of Jersey City, N. J.; died at his summer home in Newfoundland, N. J., July 8, of apoplexy.

George W. Hall, M.D. Jefferson Medical College, Philadelphia, 1855; one of the oldest physicians in St. Louis; died at his home in that city, July 7, after a long illness, aged 78.

Benjamin W. Bizzell, M.D. Southern Medical College, Ga., 1886; formerly a member of the Atlanta Board of Health; died in Phoenix, Arizona, June 26, of tuberculosis, aged 40.

Bert L. Goldthwait, M.D. Albany Medical College, Albany, N. Y., 1892; of Schenectady, N. Y.; formerly a practitioner of Troy, N. Y.; died suddenly at his home, June 17, aged 41.

James G. Ireland, M.D. University of Maryland School of Medicine, 1852; formerly of Baltimore; died at Washington, D. C., July 9, after a long illness, of paralysis, aged 77.

Francis J. Smith, M.D. Detroit College of Medicine, 1901; a member of the Michigan State Medical Society; of Sickles, Mich.; died at Ithaca, July 2, of tuberculosis, aged 31.

Daniel M. Stout, M.D. Jefferson Medical College, Philadelphia, 1847; a member of the Medical Society of New Jersey; died at his home in Berlin, N. J., July 10, aged 82.

Henry V. Dunstan, M.D. Medical College of Virginia, Richmond, 1862; one of the leading physicians of Windsor, N. C.; died at his home in that city, June 30, aged 66.

Edwin S. Robins, M.D. Jefferson Medical College, Philadelphia, 1854; of Shamokin, Pa.; one of the oldest practitioners in that part of the state; died July 9.

Jacob Charles, M.D. Long Island College Hospital, 1869; of Ephrata, Pa.; formerly a practitioner of Lincoln, Pa.; died at his home June 22, from nephritis, aged 60.

Zarilda P. Bradley, M.D. Eclectic Medical University, Kansas City, Kan., 1906; died in a private sanitarium in Kansas City, Mo., July 3, after an operation, aged 45.

John E. Sombart, M.D. Jefferson Medical College, Philadelphia, 1881; of Wilmore, Kan.; died in Wichita, July 8, after an operation for appendicitis, aged 49.

George B. Hamlin, M.D. Chicago Homeopathic Medical College, 1893; died at his home at Frankfort Station, Ill., after a lingering illness, July 2, aged 42.

Henery Flannery, M.D. University of Pennsylvania Department of Medicine, 1901; died in St. Agnes Hospital, Philadelphia, July 2, of uremia, aged 31.

John Buchanan, M.D. Medical Department University of Nashville, 1861; a veteran of the Civil War; died at his home in Eads, Tenn., July 8.

Richard B. Cash, M.D. Ensworth Medical College, St. Joseph, Mo., 1891; died at his home in Spickard, Mo., after a long illness.

John A. Carlstein, M.D. Chicago Homeopathic Medical College, 1882; of Ravenswood, Chicago; died at Charlevoix, Mich., July 10.

Willis S. Green (Years of Practice, Ind.), died at his home in Evansville, July 10, from apoplexy.

Death Abroad.

O. Liebreich, M.D., professor of pharmacology and director of the Pharmacologic Institute at the University of Berlin since 1871, until forced to retire on account of illness over a year ago, died July 2, aged 69. He began life as a sailor, then took degrees in chemistry and in medicine and became assistant to Virchow in 1867. Among the discoveries for which he is noted are the special properties of chloral and ethyl chlorid, strychnin as an antidote to chloral, the synthesis of oxyneurin, action of formalin, etc., and lanolin. He founded the *Therapeutische Monatshefte* in 1887.

Society Proceedings

COMING MEETINGS.

American Public Health Association, Winnipeg, Can., Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng., Cleveland, Aug. 27-29.
Wyoming State Medical Society, Sheridan, Aug. 28.

CONNECTICUT STATE MEDICAL SOCIETY.

One Hundred and Sixteenth Annual Meeting, held in New Haven, May 27-28, 1908.

The President, Dr. Everett J. McKnight, Hartford, in the Chair.

Officers Elected.

The following officers were elected: President, Dr. Seldom B. Overlock, Pomfret; Vice-presidents, Drs. Irving L. Hamant, Norfolk, and Walter L. Barber, Waterbury; Secretary, Dr. Walter R. Steiner, Hartford; Treasurer, Dr. Joseph H. Townsend, New Haven; delegates to the American Medical Association, Drs. D. Chester Brown, Danbury, and Everett J. McKnight, Hartford.

Hartford was chosen as the next meeting place.

Deformities of the Neck.

Dr. E. H. Arnold, New Haven, reviewed the general etiology of deformities of the neck giving the nomenclature of two typical deformities. He discussed cervical rib as an important etiologic factor of congenital rib deformity and said it might be productive of no apparent outward deformity.

of caput obstipum anterior or torticollis. Pressure neuritis in the arm was occasionally produced by it. He reported six cases. The progressive development of this condition might produce subjective symptoms as well as a late deformity.

Case of Congenital Hypertrophic Stenosis of the Pylorus in Infants

Dr. Isaac W. Kingsbury, Hartford, referred to the first case of this disease as being described by a Connecticut man, Dr. Hezekiah Beardsley, of Southington. He then reviewed the pathology and symptoms of this condition, laying stress on the necessity of frequent examinations with the patient fully undressed. Under etiology he noted the rarity of the affection among the Latin and Slavonic races. In considering the diagnosis the pathologic conditions should be kept in mind. If spastic the symptoms would subside, the loss of weight would not be progressive, the vomited stomach content might be abnormal and diarrhea might alternate with constipation. Concerning the treatment he stated it was to be considered a surgical affection and the operation must be undertaken by a competent surgeon. Prognosis was bad without an operation, but fair with one according to the condition of the patient and skill of the surgeon, ultimate prognosis after medical treatment dubious, after operative treatment excellent. He then described the case of a child, operated on by Dr. John C. Munro of Boston, eleven months ago. The patient made an uninterrupted recovery and its present weight is twenty-one pounds.

Recent Progress in Exact Diagnosis of Aural Brain Complications.

Dr. E. Dorland Smith, Bridgeport, in discussing this subject said that otologists were now trying to forestall brain complications of aural infection by early operation on selected cases. Exact methods were needed to pick out these cases as they were usually without redness, swelling and tenderness of the mastoid process. Most of them were persistent chronic running ears in which there was either pus aspirable after cleaning, dead or rough bone in the tympanic cavity or attic, cholesteatoma, mastoid disease, or labyrinth involvement. The last was especially important as the suppurating labyrinth was not only more common than had been supposed, but was one of the regular and not infrequent paths by which infection goes from the ear to the brain. Several forms of labyrinth affection might be differentiated according to the character of the cochlear deafness, to the disturbance of equilibrium by dizziness and the nystagmus of vestibular affection, and to the presence or absence of vestibular irritability. Some of these ideas about the labyrinth had not yet stood the test of time, but so much was true and useful that labyrinth investigation could not be neglected. Nystagmus was easily observed, and by its presence or absence, its amount, direction, variability, etc., often gave definite help in diagnosis. When brain complications were present, an early exact diagnosis led to a simpler and surer operation. Such a diagnosis required close study of the case and often a minute record of symptoms, but might often be made by searching out every bit of evidence and by thinking out all the possible theoretical causes for each symptom. Whether made or not, the attempt to make an exact diagnosis helped to avoid some of the unnecessary operations, and to do a better operation when operation was necessary.

Removal of Foreign Bodies by Bronchoscope and Esophagoscope

Dr. Henry L. Swain, New Haven, stated that inventions or improvements on old methods were usually the results of necessity or defects and deficiencies in the older means adopted to each certain end. The old methods of examining the throat were subject to limitations. One could not examine the larynx much less do delicate operations on it, or introduce an anesthetic, except under almost insurmountable difficulties. Young children and older unwilling children could not be coerced into permitting examination by the indirect method, and not being able to accomplish it under an anesthetic, diagnosis and treatment of diseases of the larynx and trachea were unsatisfactory. Diagnosis of diseases of the esophagus was relegated entirely to the sense of touch which of course never permitted sight of a lower level than just back of the arytenoid cartilage. If a foreign body was in a small bronchus it was almost impossible to remove it even by tracheotomy and even then no one ever thought of using a reflected light to locate and aid in removal. When a foreign body was in the esophagus, it was inexactly located and then literally fished out by aid of various ingenious devices. Dr. Swain also called attention to the value of the *x*-ray in locating these foreign bodies, especially in conjunction with the bronchoscope.

General Pathologic Conditions Occurring With Uterine Fibroid.

Dr. Henry G. Anderson, Waterbury, said that it was probable that uterine fibroid was not only a local disease but that the process was practically a general one influenced by the presence of, or by products from, the uterine growth. These changes included degenerative processes in the circulatory system as anemia, thrombosis and embolism. Degenerative changes of the heart and kidney are often observed. These changes influenced the question of operation and might of themselves make the demand for operation imperative.

Bier's Hyperemia.

Dr. Alfred M. Rowley, Hartford, explained the method of application of this form of treatment in acute rheumatism and gonorrheal joint affections and reported three cases showing good results. A third case demonstrated the prophylactic value of early hyperemia in streptococcus infections, illustrated by the treatment of two vaccinations received at the same time on either hand, one wound treated with early constriction healed in four days, the other was treated with late hyperemia and required incision and three weeks for healing.

Prognosis in the Suture of Nerves

Dr. Ernest A. Wells, Hartford, merely mentioned the primary suture of nerves and dealt chiefly with secondary suture and with the readjustment and anastomosis of nerves for the cure of certain forms of well localized paralysis. The number of cases reported is comparatively small, but the number of cases amenable to this form of treatment seems to be increasing as attention is called to the possibilities offered by it. He reviewed the literature and discussed thirty-five operations for the cure of facial paralysis, including one reported for the first time. He also discussed fourteen cases of anastomosis of nerves other than facial for the cure of paralysis.

Etiology and Treatment of Puerperal Infection.

Dr. W. L. Barber, Waterbury, gave a brief history of the disease before and after the discovery of the organism. He ascribed the cause, as usual, to the neglect of the obstetrician and midwife in securing and maintaining asepsis for the patient during and after labor. He thought that midwives were not sufficiently educated in aseptic methods. He believed that the position of the child should be determined if possible, by external abdominal examination. Normal labor was expedited too frequently, he asserted, by use of instruments, chloroform should be used in any stage of labor, if necessary, the uterus should be well contracted, and all tears should be repaired. The causes of elevation of temperature should be sought for at once, if it occurred within 24 hours, it depended usually on some infection within the system—autogenetic—primarily of gonorrheal origin, or from pyosalpinx, or vulvovaginal abscess. He thought that a correct diagnosis of puerperal infection should be made from a culture taken from the lochia. In the curative treatment, he removed from the uterine cavity all the toxic producing débris by his fingers, if possible, then flushed with salt solution. The fever subsided in a few days if sapremic. When the infection was of streptococcal origin, the uterus should not be washed out. The exudate following puerperal infection was absorbed as a rule, but, when not and suppuration was assured he advised incising and draining. Hysterectomy might be useful if the uterus alone were involved, but never in any case with involvement of the peritoneum. He believed that early abdominal incision, with flushing of the peritoneum and drainage through Douglas' space should be employed. The only medication useful was alcohol and strychnin in large doses. It was more rational to follow the bacteria in the blood with the mercury than with the silver salts. Injections of salt solution were always of advantage. Serum was of little use. In concluding he asserted that puerperal infection could not be eliminated from the list of diseases while present careless habits controlled the attendants.

Treatment of Typhoid and Its Complications.

DR. CHARLES J. FOOTE, New Haven, discussed the milk diet in typhoid from the following standpoints: The objections to the use of milk; the need of more carbohydrates in the diet; the indications for the use of alcohol in typhoid, the physiologic effects as shown in recent studies, and their bearing on the use of alcohol in typhoid; the relation of alcohol to susceptibility to infection, intestinal antiseptics in typhoid; typhoid primarily a septicemia and not an intestinal infection; the real value of intestinal antiseptics.

Pleurisy With Effusion.

DR. NELSON POMEROY, Waterbury, said that in the treatment of a serofibrinous pleurisy the physician should aspirate as soon as possible and repeat the operation at the first sign of a reaccumulation of the fluid. This treatment had the following advantages: It was easily and safely done; it relieved and shortened the local inflammation; it removed in a few moments a quantity of fluid which could not be removed through the kidneys and bowels in many days; it prevented carnification of the lung and the formation of adhesions; it prevented congestion of the lung on the unaffected side; and probably in many cases secured exemption from empyema.

Other Papers Read.

The following papers were also read: "Early Diagnosis of Cerebral and Spinal Tabes," Dr. John C. Lynch, Bridgeport; "Grocco's Sign," Dr. George Blumer, New Haven; "Gastrojejunostomy," Dr. Edward W. Smith, Meriden; "A Case of Family Periodic Paralysis," Dr. Max Mailhouse, New Haven.

AMERICAN ACADEMY OF MEDICINE.

Thirty-third Annual Meeting, held at Chicago, May 30 and June 1, 1908.

The President, **DR. THOMAS D. DAVIS**, Pittsburg, in the Chair.

The officers elected were named in THE JOURNAL, June 6, page 1913.

An amendment to the constitution was adopted providing for the election as associate members of those who are not physicians, but who have the required preliminary degree, and who are working along sociologic, educational and other scientific lines.

Education of the Public in Medical Matters.

DR. EDWARD JACKSON, Denver, chairman of the committee, appointed to recommend the best means for the medical profession to assist in education of the public, recommended that the academy provide for the placing before the public of such papers and reports read before its meetings as would be of value in the work of popular education in medical subjects, such work to be furthered through the exchange list of the *Bulletin*. On that list educational journals and popular science publications should be represented, as well as foreign or domestic medical journals and scientific transactions. It was recommended that the individual members continue their active interest in the various educative movements, and that the academy itself continue its studies, discussions and recommendations, regarding the teaching of physiology and hygiene in the schools; that it encourage original papers on the education of the public in medical matters and provide for exchanges with publications devoted to education and popular science; and, further, that at an early meeting it arrange for a discussion of the education of the public by the physician in active practice through his patients.

DISCUSSION.

DR. CASEY A. WOOD, Chicago, cited Helmholtz as the first noted man to proclaim it an essential function of the medical profession to teach the public on matters medical. Dr. Wood believes it the duty of the profession to teach the laity, all opinions to the contrary notwithstanding. He considers the public press a much more effective medium than the distribution of pamphlets.

DR. HENRY B. HEMENWAY, Evanston, Ill., urged the importance of impressing on the public the need of public sanitation. The prevalent ignorance of the laity was shown in the fact that the United States Government had to exclude from its publications the vital statistics of most of the states because of inaccurate records. Lectures for the education of the public, to be efficient, must be divorced from personal ends. To accomplish this the lecturer should be paid.

DR. LEARTUS CONNOR, Detroit, urged that the physician who would educate his community must live as he would teach. In Michigan there was a movement under the Board of Health whereby those with a knowledge of sanitation were led to instruct the uninformed.

DR. PHILIP ZENNER, Cincinnati, thought that unsigned but authoritative medical articles in the daily press would eventually be read as eagerly as the baseball news now is.

DR. HENRY F. GOODWIN, Chicago, protested against such instruction as that in the Chicago *Tribune* for the arrest of hemorrhage by filling the wound with cobwebs collected from walls, etc.

DR. JOSEPH K. WEAVER, Norristown, regarded the county medical society as the proper medium of instruction between the medical profesion and the laity.

DR. THOMAS H. SHASTID favored the work of the *Youth's Companion* in publishing half column articles on medical matters. He strongly advocated the publication of medical articles in farm journals.

DR. JOHN H. TRESSEL, Alliance, Ohio, spoke of the strong desire on the part of the farmer for instruction in matters of hygiene.

Report of Committee on Medical Education.

DR. CHARLES MCINTIRE, chairman at the conference in Pittsburg in January, reported the opinion of the committee that there was a definite field for the academy in the discussion of the educational requirements of the intending physicians, viz.: the harmonizing of the courses in the literary and medical colleges, emphasis being given to the desirability (not necessity) of a broad liberal culture precedent to the study of medicine, and the shaping of the liberal culture course to include those sciences which lie at the foundation of medicine, that they need not be taken again in a medical course.

DISCUSSION.

DR. LEARTUS CONNOR, Detroit, thought no medical school should grant a diploma until the graduate had filled a hospital interneship for at least a year.

DR. L. HARRISON METTLER, Chicago, wished there might be some authority to determine the man best fitted for certain chairs in colleges. He believed that the standard of medical education ultimately resolved itself to the character and knowledge of the faculty. The German plan of having the whole university scheme under one head he thought approximately solved the problem, for the student thus continued his studies with the teacher from whom he acquired the most knowledge; and this reacted on the teacher.

DR. WINFIELD S. HALL, Chicago, agreed with Dr. Mettler that the power of choice on the part of German students was a valuable educative factor. A plan in vogue in Chicago which resulted somewhat as the German system was the holding of clinics in medical schools at which attendance was more or less optional with the student. He believed that should the licensing board require a year's experience in hospital work before granting license to practice, the suggestion of Dr. Connor could be made practicable.

Dr. Harvey observed that in Massachusetts while about 150 medical students were graduated every year, there were hospital interneships for less than fifty.

Dr. L. Connor believed that the state boards of examiners would require such provision only if backed by public sentiment.

The Doctor and the School.

Dr. Thomas D. Davis, in his presidential address said that on no important medical subject was the physician so seldom consulted as on school hygiene. It was possible also that there was no object which he was so ill prepared to advise. In sharp contrast to the fact that school boards do not seek the advice of physicians concerning location of school buildings, he said, was the fact that the generals of the Japanese army were not allowed to pitch their tents until the medical officers had approved the locations. Medical men should insist on the acquisition of large tracts of ground for school yards and play grounds, as a matter of economy as well as of hygiene. The arrangement of rooms for the convenience of teachers and scholars had its hygienic as well as its pedagogic side. Dr. Davis believed that in the matter of heating school rooms the best results were obtained by heat supplied by direct radiation from hot water or steam coils, fresh air being introduced through the window sash and by opening all the windows every three quarters of an hour. The advantages of the inclusion of physical culture in the curriculum were considered. Such exercises must be carefully selected and adapted to the age and condition of the child. Medical advice should have a place in college athletics. The football controversy should be settled by physicians rather than by college presidents. Attention was called to the medical inspection of school children and the necessity for and advantage of such examination, which should be aided by the cooperation of teacher and parent. The importance of the teaching of physiology and hygiene was emphasized and the belief expressed that such teaching of hygiene would do much in its relation to morality and purity to elevate the next generation.

Second International Congress on School Hygiene.

Dr. Helen C. Putnam, Providence, R. I., delegate, briefly outlined the main features of the congress. There seemed need, she said, of an international commission to unify inspection methods for purposes of compilation and comparison. Oral sepsis and the influence of inspection on the incidence of diseases were of special interest. In the section on hygiene of the teaching profession, statistics were quoted showing that in Canada and the United States tuberculosis was more prevalent among teachers than among any other class, but this was not the case in European countries. Two sections indicated tendencies to classify children according to physical and mental capacities and recommended less ‘machine work,” more individual attention. Emphasis was laid on supplementing physical and psychical elements of formal drill with others of initiative and exhilaration through games and dancing. Suggestive items as to fatigue were reported from child study laboratories in the section on psychology of education. At present, it was pointed out, children at school underwent depression throughout the year without sufficient holidays for effective recovery, over 75 per cent failed to follow the curriculum prescribed as suitable for their ages and abilities—the greater number of failures being among those who had been in kindergarten—due to insufficient knowledge and application of physiologic and psychologic laws of childhood. Temperance instruction seemed the feature of the schools most interesting to foreigners, then, co-education. Instruction in the physiology and hygiene of sex was an international problem. Parental incapacity and environmental difficulties out of school were frequently discussed. Out-of-school hygiene was the title of one section. The point most insisted on in the final resolutions was much better work by institutions for training teachers. It was stated that the proceedings could be obtained through Dr. James Kerr, honorary general secretary, Royal Sanitary Institute, Margaret St., London W. C.

DISCUSSION.

Dr. Philip Zenner, Cincinnati, remarked that the teaching of sexual hygiene carried out in the public school of one of the poor districts of Cincinnati had resulted in an altogether different moral tone among the pupils.

Dr. Helen Putnam referred to the instruction in sex hygiene carried on through the efforts of the American Society of Sanitary and Moral Prophylaxis. In Philadelphia in the school gardens the subject was approached from a biologic viewpoint, embracing a study of flowers with their reproduction, and of insects. It was there taught that the two objects of every living being were to perfect and to reproduce itself. Attention was not especially drawn to human reproduction, but the plan was a means of approaching indirectly the fundamental elements of life and demonstrated what might be done in this respect in the public schools.

(To be continued.)

NORTH DAKOTA MEDICAL ASSOCIATION.

Annual Meeting, held at Grand Forks, May 12-13, 1908.

The President, Dr. Charles V. MacLachlan, New Rockford, in the Chair.

Address of Welcome.

The association was welcomed by Senator J. D. Taylor, M.D., mayor of Grand Forks.

The response in behalf of the association was made by Dr. F. R. Smyth, mayor of Bismarck.

Progress in Medicine.

Dr. Charles V. MacLachlan, New Rockford, in his presidential address, felicitated the association in greeting so many representative men of the profession from the various sections of the state, and welcomed a number of distinguished visitors from sister state associations. He discussed the recent progress made in many branches of medicine, especially in the study of infectious diseases. In pneumonia, now becoming so common in the northwest, attention was called to the occurrence of icterus, a well-marked case of jaundice indicating a grave prognosis, as this in itself seriously altered the heart's action, causing dilatation and incoordination in an already overburdened organ.

Dr. MacLachlan said that the discussion of the spread of tuberculosis and its prevention and management by the individual by the state and by the nation opened up a subject in which there was great diversity of opinion, yet a unanimity in conviction that organized effort, colossal in character, must be instituted without delay that the fearful progress might be stayed. This young and vigorous commonwealth was abundantly capable of taking care of its own afflicted. Of fresh air, sunlight and food, the sheet anchors in the care of consumptives, there was an abundance. A campaign of education was required to spread information as to how to combat the spread of disease by educating the patient himself, the family, the neighborhood, the county and the state. The judicious expenditure of the money would enable the patient to be treated at home—where care and friendship were united. Dr. MacLachlan urged that at this meeting an appropriation be made sufficiently large to enable each local society to send a delegate to visit the regular committee on tuberculosis and legislation during the session of the legislature, in order that urgent necessity of remedial legislation might be impressed on the governor, the senate and the assembly, a permanent fund obtained and a commission appointed to carry home to the people the necessary education and to provide up-to-date shelter and care for resident consumptives. The State Board of Health should be empowered by legislative act to inspect the buildings, sanitary conditions and administrative conduct of all hospitals throughout the state and license them if they fulfilled requirements. The sanitary conditions of hotels and schools and other public institutions should be similarly inspected.

Physicians of the state should follow more closely, the methods of the profession in the East in matters of professional ethics. They should guard against consulting with the representatives of various "pathies" and "isms," who, acaccording to the standard of the American Medical Association, are "irregular and unreliable."

Proceedings of House of Delegates.

The House of Delegatse convened daily. The following report was endorsed unanimously, in conformity with the president's recommendation:

> Your committee, to which was referred that portion of the president's address pertaining to the practice of some members of the profession assisting or consulting with persons practicing under various "pathies" and "isms" who are not considered up to the standard required by the American Medical Association for membership, begs leave to report that the ethics of the profession discredit the practice suggested in the president's address, and this committee recommends that this society go on record as requiring that its members do not encourage osteopaths and other irregular practitioners by assisting them with council or otherwise in their work.

The report of the secretary showed a substantial gain in membership in the component societies, some of which were doing excellent work and having interesting meetings. The report of the treasurer showed a good balance—sufficient to assist materially in carrying out at least some of the suggestions made by the president in his address.

The Committee on Public Policy and Legislation reported that the only legislation recommended by the committee during the past two years was a vital statistics bill on the lines advised by the U. S. Bureau of the Census. The bill was passed by the legislature and became a law, but without the necessary appropriation to make it effective. The committee recommended that an effort be made to secure a sufficient appropriation at the coming session of the legislature, and the recommendation was approved.

The Committee on Tuberculosis made the following recommendations in its report, which was adopted:

> The Committee on Tuberculosis would respectively recommend that the Committee on Legislation be instructed to have drafted suitable bills and to have them introduced at the next meeting of our legislature at Bismarck and to use and exercise all legitimate means at their disposal to have the same become a law, these bills to embody the principles herein set forth, to wit:
>
> 1. That the appropriation for the use of the Department of Public Health be increased to at least $7,000 per annum, making it possible for the department to carry on an aggressive policy along sanitary and educational lines. Your committee is of the opinion that the health and welfare of our citizens should at least receive as much consideration as that of our dumb animals. The Live Stock Sanitary Board has an annual appropriation of $7,500, while our Department of Public Health has an appropriation of $2,700 annually.
> 2. That it be made mandatory for attending physicians to report to the Department of Public Health all cases of tuberculosis coming within their knowledge to the end that the parties so infected may be supplied with suitable and reliable information relative to the best methods for the cure of the disease and of the precautions necessary in order to avoid transmitting the disease to others.
> 3. That spitting on a sidewalk or floor of any public building, cars, or any sort of public conveyance be declared a public nuisance, dangerous to public health, and on conviction shall be punishable by a fine of not less than five dollars or by imprisonment in the county jail not to exceed thirty days, or both.
> 4. That suitable and sufficient sanatoria be established and maintained at some proper and desirable location within the state and at its expense where approved and up-to-date methods may be employed for the relief of those who may be admitted therein for care and treatment.

Endorse Council on Pharmacy and Anti-Nostrum Work.

The Grand Forks Medical Society, through its delegates, introduced the following resolutions passed by that society Feb. 12, 1908. They were adopted:

> Whereas, The American Medical Assceiation has established a Council on Pharmacy and Chemistry, composed of scientists of world-wide reputation and standing, whose function is to examine pharmaceutical products in order to be able to inform the profession as to the actual composition of said products; and,
>
> Whereas, After careful examination of many of said products, it has officially announced its approval of a large number of them, and, in order to make clear to the profession the methods and purposes of the work, has published exposures of a large number of the fraudulent preparations that have been foisted on the members of the profession and through them on the public by interested owners and manufacturers, frequently laymen, ignorant of the use of drugs, except their meretricious use, as examples of the much larger number which they have found of little or no value or positively harmful; and,
>
> Whereas, We believe that every physician in North Dakota is vitally interested in the work of this Council and desires in every possible way to promote its usefulness and interest; and,
>
> Whereas, The greatest aid to the nostrum manufacturers in their nefarious and avaricious work has been the medical press, whether controlled by medical organizations or interested lay firms; and,
>
> Whereas, We believe the time has arrived when the great profession of medicine and all agencies controlled by it should divorce itself permanently, finally and forever from those interested who like ghouls prey on the sick and afflicted through the commercial sale of nostrums and dishonest so-called proprietary medicines; now, therefore, be it
>
> *Resolved,* By the Grand Forks District Medical Society, in regular session assembled, That we heartily endorse the formation of the Council on Pharmacy and Chemistry, and that we extend it our confidence and congratulations on the splendid work already accomplished and that we pledge it our unanimous support in its purpose of freeing our profession and its publications from nostrum control; and be it further.
>
> *Resolved,* That in pursuance of this object we hope each county society in North Dakota will devote a special session to consideration of this important question with a view of securing the active aid of every licensed practitioner in the state, and that the council of this association be requested to omit from the advertising columns of the journal all pharmaceutical preparations which are not manufactured in conformity with the United States Pharmacopeia or the National Formulary until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association; and be it further
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> *Resolved,* That we request every physician in the Grand Forks District to secure a copy of the abridged U. S. Pharmacopeia and National Formulary and be guided by this and the approval of the Council on Pharmacy and Chemistry in the use of medicines; and be it further
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> *Resolved,* That our council be requested to communicate with the editors, owners, collaborators and publishers of the medical journals of the country on this subject, and to announce to the profession of North Dakota, through the columns of *The Journal* of the American Medical Association and such publications as are willing to assist the profession by freeing their columns of nostrum advertising, and we hereby pledge our support to such journals even if they find it necessary to increase their subscription rate; and further be it
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> *Resolved,* That we expressly condemn the publication of so-called medical journals by interested owners and manufacturers of nostrums, and request the profession of the state to decline to receive them.

Approval of State Public Health Laboratory.

A Public Health Laboratory was established by an act of the last legislature at the State University and School of Mines, and in appreciation of this needful legislation, the association approved the following:

> *Resolved,* That the North Dakota State Medical Association fully appreciates this act of the legislature and desires to emphasize the inestimable value to the people of the work of this laboratory in assisting to conserve public health. It believes that the perpetuation and concentration of the work at this institution will bring additional benefits to the people of this state and that it should receive the earnest support of all our citizens as well as that of the medical profession. It also endorses the initiative work of the present director, Dr. Gustav F. Ruediger, in bringing the laboratory up to its present efficient standard and commends him for his earnest, conscientious and capable work.

Officers Elected.

The following officers were elected: President, Dr. Henry A. Beaudoux, Fargo; first vice-president, Dr. J. E. Countryman. Grafton; second vice-president, Dr. John D. Taylor, Grand Forks; third vice-president, Dr. R. H. Beek, Lakota; secretary. Dr. H. J. Rowe, Casselton; treasurer, Dr. John Dempsey Taylor, Minot.

The association meets at Fargo in 1909.

RHODE ISLAND MEDICAL SOCIETY.

Ninety-seventh Annual Meeting, held at Providence, May 26-28, 1908.

The President, Dr. Charles V. Chapin, Providence, in the Chair.

The secretary's annual report showed 386 members; of these, 345 were resident, 29 non-resident, and 12 honorary. The library committee reported 22,000 books in the library. During the year, 371 bound volumes, 278 reprints, and 226 pamphlets were added.

The trustees of the Fiske prize fund reported that a prize of $200 had been awarded to Dr. Frank R. Vale, Washington, D. C., for his essay on the subject, "Has Surgical Treatment Lessened the Mortality from Appendicitis?"

For 1909 a prize of $200 is offered for the best essay on "The Mode of Infection and the Duration of the Infectious Period in Scarlet Fever."

For 1910 a prize of $200 is offered for the best essay on "The Classification and Treatment of the Diseases Commonly Known as Rheumatism."

The trustees of the Chase-Wiggin fund announced that a prize of $75 was awarded to Dr. J. M. French of Milford, Mass., for his essay on "Tea and Coffee as Drinks."

For the year 1909 a prize of $75 is offered for the best popular essay on "The Nature of Alcoholic or Intoxicating Drinks and Their Evil Effects on the Human System."

DR. HARVEY observed that in Massachusetts while about 150 medical students were graduated every year, there were hospital interneships for less than fifty

DR. L. CONNOR believed that the state boards of examiners would require such provision only if backed by public sentiment

The Doctor and the School.

DR. THOMAS D DAVIS, in his presidential address said that on no important medical subject was the physician so seldom consulted as on school hygiene. It was possible also that there was no object which he was so ill prepared to advise In sharp contrast to the fact that school boards do not seek the advice of physicians concerning location of school buildings, he said, was the fact that the generals of the Japanese army were not allowed to pitch their tents until the medical officers had approved the locations Medical men should insist on the acquisition of large tracts of ground for school yards and play grounds, as a matter of economy as well as of hygiene The arrangement of rooms for the convenience of teachers and scholars had its hygienic as well as its pedagogic side. Dr. Davis believed that in the matter of heating school rooms the best results were obtained by heat supplied by direct radiation from hot water or steam coils, fresh air being introduced through the window sash and by opening all the windows every three quarters of an hour The advantages of the inclusion of physical culture in the curriculum were considered Such exercises must be carefully selected and adapted to the age and condition of the child Medical advice should have a place in college athletics The football controversy should be settled by physicians rather than by college presidents. Attention was called to the medical inspection of school children and the necessity for and advantage of such examination, which should be aided by the cooperation of teacher and parent The importance of the teaching of physiology and hygiene was emphasized and the belief expressed that such teaching of hygiene would do much in its relation to morality and purity to elevate the next generation

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The Committee on Tuberculosis made the following recommendations in its report, which was adopted

The Committee on Tuberculosis would respectively recommend that the Committee on Legislation be instructed to have drafted suitable bills and to have them introduced at the next meeting of our legislature at Bismarck and to use and exercise all legitimate means at their disposal to have the same become a law, these bills to embody the principles herein set forth, to wit

1 That the appropriation for the use of the Department of Public Health be increased to at least $7,000 per annum, making it possible for the department to carry on an aggressive policy along sanitary and educational lines Your committee is of the opinion that the health and welfare of our citizens should at least receive as much consideration as that of our dumb animals The Live Stock Sanitary Board has an annual appropriation of $7 500, while our Department of Public Health has an appropriation of $2,700 annually

2 That it be made mandatory for attending physicians to report to the Department of Public Health all cases of tuberculosis coming within their knowledge to the end that the parties so infected may be supplied with suitable and reliable information relative to the best methods for the cure of the disease and of the precautions necessary in order to avoid transmitting the disease to others

3 That spitting on a sidewalk or floor of any public building, cars or any sort of public conveyance be declared a public nuisance, dangerous to public health, and on conviction shall be punishable by a fine of not less than five dollars or by imprisonment in the county jail not to exceed thirty days, or both

4 That suitable and sufficient sanatoria be established and maintained at some proper and desirable location within the state and at its expense where approved and up to date methods may be employed for the relief of those who may be admitted therein for care and treatment

Endorse Council on Pharmacy and Anti-Nostrum Work

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WHEREAS, We believe that every physician in North Dakota is vitally interested in the work of this Council and desires in every possible way to promote its usefulness and interest and

WHEREAS, The greatest aid to the nostrum manufacturers in their nefarious and avaricious work has been the medical press whether controlled by medical organizations or interested lay firms; and

WHEREAS, We believe the time has arrived when the great profession of medicine and all agencies controlled by it should divorce itself permanently finally and forever from those interested who like ghouls prey on the sick and afflicted through the commercial sale of nostrums and dishonest so called proprietary medicines, now, therefore be it

Resolved, By the Grand Forks District Medical Society, in regular session assembled, That we heartily endorse the formation of the Council on Pharmacy and Chemistry, and that we extend it our confidence and congratulations on the splendid work already accomplished and that we pledge it our unanimous support in its purpose of freeing our profession and its publications from nostrum control; and be it further.

Resolved That in pursuance of this object we hope each county society in North Dakota will devote a special session to consideration of this important question with a view of securing the active aid of every licensed practitioner in the state and that the council of this association be requested to omit from the advertising columns of the journal all pharmaceutical preparations which are not manufactured in conformity with the United States Pharmacopeia or the National Formulary until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association; and be it further

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Resolved, That our council be requested to communicate with the editors, owners, collaborators and publishers of the medical journals of the country on this subject and to announce to the profession of North Dakota, through the columns of *The Journal* of the American Medical Association and such publications as are willing to assist the profession by freeing their columns of nostrum advertising and we hereby pledge our support to such journals even if they find it necessary to increase their subscription rate and further be it

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Officers Elected

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The association meets at Fargo in 1909.

RHODE ISLAND MEDICAL SOCIETY

Ninety seventh Annual Meeting held at Providence May 26 28, 1908

The President, DR CHARLES V CHAPIN, Providence in the Chair

The secretary's annual report showed 386 members of these 345 were resident 29 non resident and 12 honorary The library committee reported 22,000 books in the library During the year, 371 bound volumes, 278 reprints, and 226 pamphlets were added

The trustees of the Fiske prize fund reported that a prize of $200 had been awarded to Dr Frank R Vale, Washington, D C, for his essay on the subject, 'Has Surgical Treatment Lessened the Mortality from Appendicitis?"

For 1909 a prize of $200 is offered for the best essay on "The Mode of Infection and the Duration of the Infectious Period in Scarlet Fever"

For 1910 a prize of $200 is offered for the best essay on 'The Classification and Treatment of the Diseases Commonly Known as Rheumatism"

The trustees of the Chase Wiggin fund announced that a prize of $75 was awarded to Dr J M French of Milford, Mass for his essay on 'Tea and Coffee as Drinks"

For the year 1909 a prize of $75 is offered for the best popular essay on The Nature of Alcoholic or Intoxicating Drinks and Their Evil Effects on the Human System"

Sanitary Problems.

The President, Dr. Charles V. Chapin, in his annual address on "Some Sanitary Problems," said that although much yet remains undone, much has already been accomplished. Among the sanitary successes of the last century have been the cleaning of cities, the providing of pure water, the removal of waste, the scientific purification of water and sewage, the building of special hospitals for the isolation and treatment of those suffering from contagious diseases and the substitution of effective inspection for burdensome and ineffective quarantine.

Case of Brain Tumor.

Dr. William McDonald, Jr., Providence, reported a case of brain tumor and exhibited the specimen. The tumor was a glioma and occupied nearly the whole of one hemisphere. In spite of the extensive destruction of the brain, the patient remained quite rational for a long time.

Laryngeal Diphtheria.

Dr. Irving S. Cook, Georgiaville, reported a case of diphtheria which involved the larynx and trachea. Antitoxin failed to relieve and preparations were made to operate when the child had a severe coughing spell and coughed up a long membrane which was a perfect cast of the trachea and primary bronchi and which on one side showed two extensions into secondary bronchi.

Actinomycosis.

Dr. Nathaniel H. Gifford, Providence, read a paper on "Actinomycosis." He briefly reviewed the subject and reported the first case to be presented to the society. The patient was a male, aged 56, who had been accustomed to suck pieces of straw. When first seen, the disease had made such progress in six weeks that the patient was unable to separate his jaws more than a quarter of an inch. The right jaw and the tissues below presented an irregular tumor, the size of a small orange, and on its surface were several soft and inflamed spots. This and some small abscesses which formed, were opened and drained. Internally, iodid of potassium was given and in about six months the man made an excellent recovery. The fungus was shown under the microscope.

Dr. William C. Monroe, Woonsocket, read a paper on "The Health Problems of the Smaller Cities."

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Frank B. Fuller, Pawtucket; vice-presidents, Drs. Eugene Kingman, Providence, and Augustin A. Mann, Central Falls; secretary, Dr. Stephen A. Welch, Providence; treasurer, Dr. George S. Mathews, Providence. Dr. G. T. Swarts, Providence, was appointed to serve for three years on the Committee on Medical Education of the American Medical Association, an dalso to serve on the Committee on Medical Legislation of the American Medical Association.

AMERICAN ORTHOPEDIC ASSOCIATION.

Twenty-Second Annual Meeting, Held in Chicago June 4-6, 1908.

The President, Dr. Henry Ling Taylor, New York, in the Chair.

The President, in his address, discussed the "Present Day Needs of an Orthopedic Service."

Dr. Robert B. Osgood, Boston, secretary of the Association, presented the memorial to Albert Hoffa.

Treatment of Joint Tuberculosis by Marmorek's Serum.

Dr. Albert H. Freiberg, Cincinnati, reported the progress of cases described at last year's meeting, and giving some new cases treated since. He said that the serum had no influence on the temperature in any severe case, but that in cases of ordinary unmixed infection the temperature seemed to become more nearly normal than before the administration of the serum.

Treatment of Rheumatoid Arthritis.

Dr. Frank E. Peckham, Providence, R. I., gave the results of the treatment of villous, atrophic and infectious arthritis, by electric and other baths, vibration and gymnastics.

A New Treatment for Old Tuberculous Sinuses.

Dr. John Ridlon and Dr. Wallace Blanchard, Chicago, described this treatment which consists in injections of bismuth and petrolatum emulsion.

DISCUSSION.

Dr. Emil Beck, Chicago, spoke of some of the limitations of the method, so as to put orthopedists on their guard against them. He thinks, however, that its use is not attended with much danger, there having been no bad accidents from it. It should not displace other methods.

Dr. H. Augustus Wilson, New York, said that the first fluid, melting at a lower point, is better for small sinuses, and said that the second, hardening with great rapidity, would enter with more difficulty.

Dr. Gwilym G. Davis, Philadelphia, asked whether or not any bad effects are likely to arise from the use of paraffin and petrolatum, these being minerals and apparently almost unabsorbable. He has not used bismuth, but has used a mass of iodoform, wax and oil of sesame or olive oil.

Dr. A. H. Freiberg, Cincinnati, had used for several years a thin suspension of bismuth for the purpose of diagnosticating the extent of these fistulous tracts. He thinks, however, that so long as destruction at the seat of disease is going on, it would be useless to close the fistula.

Dr. Philip Hoffman, St. Louis, said that he wondered whether or not some of the many sinuses shown in radiograms of such cases might not be dissection-sinuses produced by the force used in injecting the bismuth.

Dr. Rugh stated that in the postmortem examination of a part of the face that had been injected subcutaneously with paraffin for the correction of a deformity, it had been found that Nature was appropriating the material by throwing out new tissue through the injected mass, thus making it actually a part of the body.

Dr. Blanchard said that the bismuth was not intended as a treatment for the tuberculosis, for which the patients were being treated at the same time by other means. He has found no bad mechanical effect from the injections. The method was not used in cases of acute inflammatory conditions, but only for old chronic sinuses and to open two abscesses. He saw no reason for changing the formulas employed.

The Influence of Weight Bearing on the Treatment of Tubercular Joint Disease.

Dr. Virgil P. Gibney, New York, presented this paper.

DISCUSSION.

Dr. H. A. Wilson, New York, said that by this method he has obtained both the best and the most disastrous results that he has ever encountered. He was surprised at the manner in which one patient's legs developed and apparently became swollen from some kind of pressure. In order to prevent the weight-bearing from producing luxation and consequent shortening, the limb, when the plaster is applied, should be held in a position of slight flexion, abduction and external rotation.

Dr. Edward H. Bradford, Boston, said that he had seen a certain number of patients treated for hip disease with weight-bearing and a short spica without immediate benefit, and in whom recovery was a slow and extremely painful process. He thinks that the splint treatment has been carried to the point of absurdity. He thinks that patients should not be allowed to run around on diseased hips, even if they are abducted. He does not consider the appearance according to the *x*-ray photograph conclusive evidence as to the real condition present. The question should be considered from the standpoints of pathology and clinical results, and he believes that although weight bearing is justifiable and salutary in some cases, in others fixation and compression or traction should be employed.

Dr. David Silver, Pittsburg, mentioned a case in which the result from the use of this method had been that the head of the femur was entirely destroyed, leaving just the remains of the neck.

Dr. Compton Riely, Baltimore, said that patients should not be kept in traction too long. Attempts should be made at short intervals to see whether the patient could not get along with the spica.

Dr. Arthur J. Gillette, St. Paul, said that some patients do better with immobilization, some with extension, and some with both. No hard and fast rule can be laid down.

Dr. James K. Young, Philadelphia, said that his experience with the Lorenz method has been gained in treating patients who came to him with abscesses and other troubles after having been treated according to that method by other men.

Dr. Taylor said that he does not feel ready to accept the dictum that all cases can be successfully treated with the spica. A great many patients do fairly well under this treatment while in the hospital, but within a short time after leaving that institution they come to the out-patient department with legs swollen.

Dr. V. P. Gibney, New York, said that the method was known before Lorenz was thought of. He does not treat all his patients in that way. He has not found radiograms always satisfactory, and hopes by the end of another year to have some statistics to present on the subject of the results of this method of treatment.

CANDIDATES' THESES.

1. Deformities in Feeble-Minded Children.

Dr. E. H. Arnold in his thesis said that the conspicuous findings are the following: The preponderance of females, the high percentage of Hebrews, the comparative sterility of the parents, the large number of families having more than one defective child, the fact that instrumental delivery is a possible cause in some cases, the large proportion of smooth-breathers, the tardy beginning of walking and talking, the prevalence of left-handedness, the fact that very few feeble-minded children escape deformity, and the conclusion that most of these deformities are acquired and due to habit. He then considered the prophylaxis in some of these conditions, and the value of educational measures in forming good habits and overcoming bad ones.

DISCUSSION.

Dr. B. E. McKenzie, Toronto, believes that instead of one of these conditions being dependent on the other, both are due to a common cause—a brain-lesion at some time, and frequently before birth. In correcting these deformities he depends greatly on education. If he can not have the cooperation of the patient, as is impossible in the feeble-minded, he hesitates to enter on the more distinctly surgical aspect of the correction of deformities.

Dr. Young said that forceps are often used unnecessarily, and their use often results in the deformity of the child.

Mr. Ernest Muirhead Little, England, said that in a certain proportion of spastic cases the pressure of the forceps probably causes the lesions with which the surgeon has to deal.

2. Tuberculin in Orthopedic Surgery. Clinical and Laboratory Reports.

Drs. John Joseph Nutt and T. W. Hastings based their paper on twenty-two cases of joint tuberculosis, and described fully the details of the administration of the tuberculin.

Dr. Charles F. Painter, Boston, said that he has had many cases in which this treatment was used, but that the results had not been so satisfactory or so encouraging as those in Dr. Nutt's series.

Dr. Charles Ogilvy said that the opsonic index is of little practical value, and that some patients improve under injections of tuberculin much more quickly and satisfactorily than others.

3. Mechanical Lesions of the Sacroiliac Joints.

Dr. Ralph R. Fitch reported twenty-two cases, divided in groups according to etiology. Treatment began with support, and he described a method of applying plaster-of-Paris jackets with the back in a hyperextended position without special apparatus.

DISCUSSION.

Dr. Painter said that manipulation under anesthesia often gives relief that mechanical measures do not afford, and gave the details of an illustrative case.

Dr. Ansel G. Cook, Hartford, Conn., called attention to a new symptom of the condition, first suggested to him by Dr. William Porter, of Brooklyn. This is the fact that pain can be elicited by pressing on the joint from the rectum, when no pain can be elicited by pressing on it from the other side.

Dr. R. E. Fitch said that he does not know of the presence of any one definite symptom. He has seen one or two cases with pain referred to the coccyx and without pain elsewhere.

4. The Non-operative Treatment of Fracture of the Femoral Neck.

Dr. A. M. Forbes referred to the grave prognosis in medial and intracapsular fractures, and the decreasing tendency to osseous union as the fracture approaches the smaller portion of the neck near the head. A consideration of the anatomy of the fracture and the anatomic principles of treatment and a critical review of the methods of treatment that have been advocated led him to conclude that under certain forms of treatment there is probably a more hopeful prognosis than most surgical writers indicate.

DISCUSSION.

Dr. Hoffman gave the details of several cases in old women treated by the Whitman method, in each instance some time after the accident occurred, with good results. He thinks if good union could be secured under such adverse conditions, to get it must be merely a matter of technic. He remarked that a person inexperienced in the application of the plaster-of-Paris could make the patient very uncomfortable. Pads should be used, and then the patients are more comfortable than with the old traction method. They can be shifted around in bed and bedsores do not occur.

Dr. Aaron J. Steele, St. Louis, considers fracture of the thigh bone to be due to old age, at which period changes take place that cause the thigh to be broken very easily. He referred to what might be called a figmental ligament, a thickening of the capsular ligament running along the under side of the neck, and said that when the thigh bone is fractured from a slight cause in elderly people the figmental ligament may act as a splint and hold the parts of the bone together. If in such cases the patients are confined to bed and slight traction made, the union would probably take place without much trouble.

Dr. Forbes said that Whitman's method is best in the cases of young patients, but that Maxwell's is better in elderly persons.

5. The Cause of Atrophy in Joint Disease.

Dr. Arthur T. Legg gave the results of a comparative study of the atrophy of disuse alone and that caused by joint irritation. The results of animal experiments led him to conclude that, since the atrophy of disuse is brought about in a complex way by the vasomotor system controlling the nutritive equilibrium of the body, the atrophy seen in joint disease is brought about in the same way, namely, through functional inactivity.

Dr. Hoffman said that bandaging with traction probably also tends to produce atrophy. He thinks, however, that the atrophy is more due to non-use than to mechanical interference.

Dr. McKenzie said that in the affected limb the gluteal muscles are subjected to more strain than in the other limb in having to keep the joint at rest yet their atrophy is usually marked. It would be difficult to explain why bone-atrophy is also a distinct factor in hip disease.

6. The Anatomy of Congenital Dislocation of the Hip; a Further Study.

Dr. W. G. Turner discussed some of the anatomic causes predisposing to the occurrence of dislocation and the importance of proper fixation adapted to anatomic conditions. He demonstrated the class of cases in which the axillary abduc tion position is indicated, and showed diagrams of seven cases illustrating the varieties of skeletal variations previously discussed.

DISCUSSION.

Dr. Riely said that in his experience the neck of the femur was twisted forward, instead of backward, in all but one case. He referred to some radiograms, exhibited soon after Lorenz's visit, in which the trochanter, instead of the head, was in the acetabulum. These cases had had a posterior twist; and the neck, instead of being twisted back on the shaft, was twisted forward. A great deal of difference in the result is produced by the position of the leg when the plaster is applied.

SYMPOSIUM ON BONE DISEASES.

Actinomycosis of the Ribs and Vertebræ.

Dr. James K. Young said that in this case there was no history of exposure to the contagion. The disease began with difficulty of deglutition. A large scapular abscess was followed by infection of the ribs and dorsal vertebræ. An operation was performed, but the disease continued to extend and had a fatal termination.

Myositis Ossificans.

Dr. Charles F. Painter described two principal types of this disease, the progressive and the traumatic, and reported two cases, considering the etiology, the gross and microscopic pathology, the clinical course, the operative and medicinal methods of treatment, and the prognosis.

Three Cases of Blastomycosis Resembling Bone Tuberculosis.

Dr. Edwin W. Ryerson, Chicago, said that the first patient, a young man, apparently suffering from an old knee-tuberculosis, had an acute localized suppuration in the outer malleolus, followed by similar affections in many other joints. The second case was that of a young man with apparent dorsal Pott's disease and pulmonary tuberculosis, who developed typical blastomycosis. Both cases were fatal, and an autopsy was obtained in each.

Bone Fragility and Eburnation of Rickets.

Dr. Wallace Blanchard, Chicago, said that rachitic bone may be so friable that the long bones of the legs may break under the body weight, and with a change of diet and environment may eburnate in two months to nearly the solidity of adult bone. He presented cases showing a quick change of bone structure from extreme friability to comparative solidity and strength.

Discussion on Bone Diseases.

Dr. F. H. Albee added two more cases of myositis ossificans to those reported by Dr. Painter and exhibited *x*-ray pictures. In the second case there was no history of injury and no pain, just a flexion deformity at the knee-joint.

Dr. Riely described a case that he had seen and believed to be myositis ossificans. There were flat, hard plates at various portions of the body, some of which were permanent and some transient. The patient had had rheumatism and had rheumatic endocarditis.

Mr. Little referred to one of Dr. Blanchard's cases, in which after an operation for bow-legs, a knock-knee had appeared, resembling a case of retrogressive rickets. He believed such cases to be more common than is generally supposed. Some surgeons believe them to be osteomalacia and not rickets, but the postmortem microscopic appearance in one of his cases had been those of rickets. He asked for the experience of the members in regard to the prevalence of late rickets, and also desired to know whether or not they thought it of any use to do an osteotomy in such cases.

Dr. Painter said that he had had an undoubted case of osteomalacia some years ago, and had lately had one of adolescent or recrudescent rickets. Both had developed at about the age of puberty, and in both the attempt to take out the bend proved fruitless. He thinks that recrudescent rickets is a form of osteomalacia.

Dr. H. L. Taylor mentioned a peculiar case seen by him and Dr. Albee within a few weeks, in which the diagnosis of myositis ossificans was made, but in which an *x*-ray disclosed a needle.

Dr. Davis thinks that the condition known as Madelung's disease might be a condition of late rickets. In this disease subluxation occurs at some points, progressing to a moderate degree, and then remaining stationary. He had such a case in which good union was secured after osteotomy.

Dr. Blanchard said that he believed it to be thoroughly understood that adolescent rickets is different in nature and pathology in every respect from infantile rickets.

(To be continued.)

NEW HAMPSHIRE MEDICAL SOCIETY.

One Hundred and Seventeenth Annual Meeting, held at Concord, May 14-15, 1908.

(Continued from page 246.)

The Treatment of Acute Intestinal Obstruction.

Dr. Charles L. Scudder, Boston, said that there are two groups of intestinal obstruction, the non-mechanical and the mechanical. In the non-mechanical group are included those cases of obstruction: Following contusion of the abdomen and those associated with abdominal inflammatory processes; pneumonia; acute nephritis and after clean laparotomy wounds.

The mechanical group includes the obstructions occasioned by bands, adhesions, kinks, intussusception, volvulus, stones within the gut, and tumor within and without the gut.

The mechanical conditions are of less importance than the local and general vital conditions. Two factors are present in every intestinal obstruction; an obstruction to the lumen of the gut and obstruction to the circulation in the wall of the gut. He emphasized a consideration of the changes in the wall of the gut. Early diagnosis in acute intestinal obstruction admits early operative relief; early operative relief ensures a low mortality. He discussed the surgical procedures in the treatment of an acute intestinal obstruction, and submitted a report with an analysis of 121 cases of acute intestinal obstruction from the Massachusetts General Hospital clinic.

DISCUSSION.

Dr. H. L. Smith, Nashua, said that rarely is an operation performed where there is not reason to be thankful it has been done.

Referring to the question of pain brought out by Dr. Scudder, Dr. Smith described a recent case, where, after an operation, the patient had post-operative hemorrhage, and more or less manipulation had to be done on the peritoneum and bowel without ether. Handling the intestine was not painful, but any tension on the peritoneum or on the mesentery caused severe pains. As the patient was conscious all the time, this was very noticeable.

Dr. Kean said that the cause of the pain is the stretching of the peritoneum, whether in rupture in pregnancy or in appendiceal colic, or anything else.

As to the insertion of the drain, having it come in contact not with the small bowel, but with the large bowel, as referred to by Dr. Scudder, Dr. Kean believed that would explain some of the points made with reference to the small bowel as to vomiting, etc.; that the peristalsis of the small bowel is much more rapid than that of the large bowel.

Vibrotherapy in Gynecology.

Dr. August Guertin, Nashua, defined sismotherapy as really mechanical massage, having the action of an aspirating and compressing pump on lymphatics and veins, thereby increasing and diminishing the circulation or congestion of the parts treated, according to the firmness and rapidity of the vibrations employed. He recited the history of sismotherapy and its evolution up to the present time, explaining the treatment fully and clearly, and illustrating it by blackboard sketches. He asked that, though this was a comparatively new style of treatment, it should be given a fair hearing and conscientious study.

DISCUSSION

Dr I G Anthoine Nashua spoke warmly in favor of this method of treatment and believed it to be a method of relief advantageous in the treatment of almost all forms of human disease

The Duty of the Physician as a Teacher.

Dr Philip H Greeley, Farmington urged on the profession the necessity of recognizing and fulfilling their duty as teachers of the people along the line of prevention of disease and preservation of vigorous health, for preventive medicine which stands well in the foreground to day in order to be of practical good, must be absorbed by the layman as well as by the physician

He called attention to the matters of food, clothing, ventilation and recreation, as of unlimited importance in preserving health They are misused sometimes carelessly, sometimes ignorantly, and the public should be instructed by the physician regarding them He urged that special attention be given to the education of children along this line to the end that future generations might be freer than the present one from preventable disease.

The advancement of preventive medicine is a task which belongs to the medical profession No other profession or class of people can take this burden from it A physician must never expect to make himself famous by such work but with patient zeal born of love for humanity, he can direct many lives to a much better knowledge of the fundamental laws of health

DISCUSSION

Dr F L Klay, Rochester, laid particular stress on the duty of teaching the children in the public schools the principles of physiology and hygiene, together with the causes and prevention of preventable diseases He expressed the opinion that it is exceedingly difficult, if not impossible, to remove the long fixed, erroneous impressions of the adult in regard to these matters He urged that in the teaching of the child lay the opportunity for the ultimate accomplishment of the greatest good

Dr G A Tolman said it would seem at first glance that we would better instruct the children les and look more closely after the schoolhouses in which they are instructed He urged the necessity of looking after the sanitary condition of schoolhouses, especially those in the country, where often practically no attention is given to insure anything like healthful conditions He had traced a case of typhoid fever in one school district to drinking water which had been dipped out of the river and allowed to stand all day in a pail, and at another time he had traced a case of diphtheria to a closed water closet which he discovered at a certain schoolhouse, and which was in very bad condition He thought that the physician should take an active part in the work of school boards

Two Years of Progress Under the Food and Drugs Act

Mr C D Howard, Concord state chemist, gave a complete summary of the work accomplished by this department of the state during the last two years He said that since Jan 1, 1907, when the act went into effect, a great many samples had been collected and analyzed, preliminary hearings had been held, and something over one hundred cases had been submitted to the department of justice for trial While progress was necessarily slow, and there was a tendency in some quarters to find fault, some persons going so far as to declare the law a failure nevertheless the fact was undeniable that an inconceivable amount of good had been accomplished, though the progress of enforcement was lacking in the spectacular quality which the public seems to have expected

DISCUSSION

Dr I A Watson Concord stated that the great amount of work accomplished under the act referred to in the last paper was due almost wholly to the efforts of the author of that paper

Some Conditions of Mind and Body which May Persist After Mutilating Operations on the Female Generative Organs, with Cases

Dr C H Holcombe Brookline, explained clearly a group of symptoms which sometimes follow operations on the female pelvic organs and described several complicated cases which came under his observation

DISCUSSION

Dr Ella B Atherton, Nashua stated that the severity of the symptoms following such operations depends largely on the general condition of the patient before the operation rather than on the particular lesion for which the operation is performed, which fact was not taken sufficiently into consideration The speaker called special attention to the point that in all operations to remove the ovaries, if even the smallest part of the ovarian tissue is left, it will be helpful to the psychic condition as it causes much less of a shock than the complete removal of both ovaries

Dr A W Shea, Nashua considered that normal ovaries should never be removed, as not only is the function of reproduction lost but also the important quality of stamina Too many of the profession to day he said are good operators rather than good surgeons, devoid of the "surgical conscience and when an opportunity presents itself to remove fix or suspend an organ they are ready to act without further thought of results We should study our cases pay more attention to diagnosis, and operate when our best judgment deems surgical interference the best therapeutic measure

Acute Infectious Jaundice

This paper was read by Dr Marion L Bugbee Concord After giving a complete history of this disease previously known by several different names, such as abortive typhoid endemic yellow fever bilious fever relapsing fever and even polyarthritis with absorption icterus, the author described four very interesting cases

Acute Rheumatism.

Dr J G Quimby, Lakeport, said that rheumatism though an unscientific and vague word, was one that designated several conditions which have three things in common 1 Febrile or toxic symptoms, which may be of a general or constitutional character 2 A localized inflammatory lesion, usually in the joints, though frequently found in the muscles and skin 3 A great tendency to complicate other conditions by causing certain visceral inflammations, such as the heart serous membranes, and sometimes the tonsils The common use of the word rheumatism, or its synonyms, in conjunction with other maladies, such as gonorrheal rheumatism, rheumatic gout, and rheumatoid arthritis, is a misnomer, for it implies an etiological condition which does not exist No matter whether there is a common antecedent diathesis or not there is so little in common in the pathological anatomy or symptoms of gout, arthritis deformans and gonorrheal rheumatism, that we should hardly be justified in calling them rheumatism

He described symptoms and complications, and recommended that care should be taken to separate rheumatism from pyemic states, gonorrheal arthritis, acute tuberculous joint disease osteomyelitis, glanders arthritis deformans, acute gout scurvy, etc, most of which have some diagnostic symptoms not common in rheumatism Acute articular rheumatism is a self limited disease, and will generally result in recovery in from one to six weeks

Eczema and Allied Conditions

Dr D R Chase Orford, stated that this condition is one of the diseases of the skin of most frequent occurrence, statistics showing that it forms from 20 to 40 per cent of dermatological cases reported, and though acne is a more common affection than eczema, yet as many subjects never deem it necessary to submit to treatment, the records of such cases do not figure in the above statistics

Clinically several types of eczema can be recognized, which require separate description Dr Chase then described eczema erythematosum eczema papulosum, eczema vesiculosum eczema pustulosum; eczema rubrum; eczema squamosum; eczema fissum; eczema intertrigo; eczema verrucosum; eczema sclerosum; eczema diabeticorum; eczema folliculorum, and discussed some of the various cases which might be difficult of differentiation, such as acne, dermatitis, erysipelas, erythema, herpes, impetigo, pediculosis, psoriasis, scabies, seborrhea, sycosis, ringworm, etc.

There are no specifics for eczema. Such remedies only should be given as are indicated by the general condition of the individual. Overmedication and dosing with blood medicines are common errors in the management of this disease. The chief object of the constitutional, and also the local treatment, is to remove all sources of irritation to the inflamed skin.

DISCUSSION.

Dr. J. M. Gile, Hanover, touched on the point that the mental picture of eczema is never that of a single definite appearance on the surface of the body, but usually one type predominates, and the others, one or more, are present in greater or less measure. He also suggested the necessity of differentiating carefully between eczema proper and parasitic skin diseases, as the treatment in the two groups of cases should be radically different.

The discussion was continued by Dr. A. K. Day, Concord, who referred especially to the infantile eczema, and eczema of the hands, or what is commonly known as salt rheum, and Dr. I. G. Anthoine, Nashua, who stated that he had used the *x*-ray in a number of cases of eczema, with good results, and the doctor described particularly two such cases.

Medicolegal

Court Extends the Liability of Physicians to Negligence in Removal of Patient After Operation.

The Supreme Court of Iowa says in the case of Haase vs. Morton and another, that the senior member of the defendant firm of physicians, being called to the plaintiff's home to treat her professionally, determined that a surgical operation was necessary. This he suggested it would be safer and more convenient to perform at a hospital, and undertook to and did make the necessary arrangements for performing it there.

Thereafter the plaintiff was taken to the hospital by said physician, who performed the operation, his partner administering the anesthetic.

After the operation, the plaintiff was taken from the operating table and placed on a car or stretcher for the purpose of taking her to her room on the floor below. Both of the physicians assisted in placing her on the car, which was about six feet long and had six rubber-tired wheels, two large wheels in the center and two smaller ones at each end, so that, when either set of end wheels was resting on the floor, the car inclined in that direction.

After the plaintiff had been placed on the car the senior physician left the operating room for the surgeon's dressing room, and his partner and a nurse rolled the car into the elevator room for the purpose of taking it to the room below on the elevator, the physician being in front of the car and the nurse behind it. When they reached the elevator room, they found the elevator door wide open and the elevator below. After the car had been stopped the physician left it, and stepped to the side of the elevator shaft for the purpose of bringing the elevator to their floor. The machinery did not at once respond to his efforts, whereupon the nurse told him that she would go and call the janitor. She then left the car, and, after she had gotten some seven or eight feet therefrom, the physician said to her, "Never mind, I can get it from here." When the nurse turned to go back into the elevator room the car was just rolling into the elevator shaft. She reached it, but too late to save the plaintiff, who was still unconscious, and they were both precipitated to the floor below, some fifteen feet. For injuries received in the fall, the plaintiff brought this suit.

The Supreme Court affirms a judgment for the plaintiff. It says that the evidence tended to show that the physician who was with the car or cart had, before this particular time, assisted in operations at the same hospital, and had also assisted in removing the patients operated on from the operating-room by means of the same cart and elevator. It must therefore be presumed that he was familiar with the size and construction of the cart used in the present instance and with the conditions surrounding the elevator room.

It was shown that the peculiar construction of the cart, the end wheels being lower than the center ones, made it very easy to start. The floor in the elevator room was cement, and the wheels of the cart were equipped with rubber tires, making a combination well calculated to overcome friction. The elevator door was wide open when the cart was stopped by the physician with its front end within a foot of the elevator shaft. The plaintiff was at the time unconscious, and hence wholly unable to look out for herself or appreciate the danger of her position. Notwithstanding these dangerous conditions, the physician not only left the cart himself, but, after being advised by the nurse that she had also left it, he paid no attention to it, and a slight movement of the plaintiff started it toward the open shaft.

The defendants' position on this branch of the case was unsound for two reasons. In the first place, it might well be said that just such a result might reasonably be expected to follow the leaving of such a vehicle in so dangerous a place. Indeed, it seems to the court that an accident might almost be expected to follow as a matter of course. The cart was easily started, and even unconscious persons not infrequently use their physical power; therefore a reasonably careful person would guard against these conditions singly or combined. In the second place, negligence does not depend on the question whether the result of an act might reasonably have been foreseen. The consequences of negligence need not be foreseen. It is enough to constitute negligence if the result of the act is the natural, though not the necessary or inevitable thing to be expected. If ordinary prudence would suggest that the act or omission would probably result in injury, it is sufficient to support the charge of negligence.

It was conceded that the defendants were not responsible for the negligence of the nurse, and the defendants contended that the act of the physician in leaving the cart for the purpose of raising the elevator was not the proximate cause of the accident. But he was one of the persons in charge of the plaintiff at the time in question. He had undertaken to assist in removing her to her room, if he was not in fact in charge of her at that particular time, and he was therefore legally bound to exercise reasonable care in her removal. Whether he exercised such care after he knew that the nurse had left the cart was clearly a question of fact for the jury. If it be said that they were both negligent it did not relieve the defendant for it is the rule that the mere fact that some other cause operates with the negligence charged does not relieve from liability.

Furthermore, the court is unable to agree with the contention of the senior physician who denied liability on the ground that whatever liability existed must rest on the act of his partner, while he was assisting in the removal of the plaintiff from the operating-room to her own room, and insisted that the removal to her private room was not within the scope of the ordinary business of the firm. The defendants were partners in the general practice, and the partnership, acting through the senior member, undertook to perform the operation and did in fact perform it. It was he who advised the plaintiff to go to the hospital where she could be much better taken care of than at her home. He made all of the arrangements at the hospital for the plaintiff and took her there in his own carriage. When she arrived there she was shown to a private room, and, acting under the direction of the defendants, she there prepared herself for the operating table. She went from there to the operating-room where the anesthetic was administered by the junior physician and in the presence of the senior physician and several persons connected with the hospital. It was very clear that the plaintiff could not be left in the operating-room during the period necessary for her recovery, and it was the duty of some one to see that she was safely removed therefrom and placed in a room suitable for such further treatment as her case might require.

While it was shown that neither of the defendants owned or controlled the hospital, it did appear that they made all arrangements for the plaintiff's stay there, and a jury would be justified in finding that the defendants as part of their employment undertook to care for the plaintiff from the time she entered the hospital until she was ready for discharge therefrom. And while this might not ordinarily include the work of the hospital employés, the physicians might assume the duty of returning the patient to her room, and in such event each member of the firm would be the agent of the other in carrying on the work. It is fundamental that each partner is the agent of the firm while engaged in the prosecution of the partnership business, and that the firm is liable for the torts (wrongful acts) of each, if committed within the scope of the agency.

The trial court gave an instruction which embodied correct law on this subject and it was for the jury to say whether the junior physician was acting for the firm when the accident occurred. It surely should not be said as matter of law in all cases that after a serious surgical operation and while the patient is still unconscious, the physician may leave the patient on the operating table to find his way to his own room the best he may. Furthermore, the evidence showed that in this hospital the physicians accompanied their patients up and down the elevator.

Justice Weaver says in a dissenting opinion: I am not able to concur in the foregoing opinion. The net result of the holding there expressed is to greatly increase and enlarge the liability, already sufficiently burdensome, of the medical profession. It may be admitted that the defendants advised plaintiff to go to the hospital, and in her behalf arranged with the hospital managers for her reception, but I am unaware of any rule of law by which such acts on their part rendered them chargeable with the negligence of the hospital managers or their servants. There is no pretense that defendants had any connection with or control over the hospital or the attendants there employed except as practicing physicians who went there to treat their patients.

Again he says referring to the junior physician: To charge him with this unfortunate result—and to go still further and charge the partnership of which he was a member—strikes me as a grievous injustice not called for by any rule or principle of law. Suppose in wheeling the car along the hall, the nurse had carelessly tipped it over, precipitating the plaintiff on the floor, or had carelessly fallen on or against the plaintiff, or had of her own motion administered a medicine or restorative in excessive or dangerous quantity, is there any principle on which defendants could be held liable for injuries thus occasioned? I think it safe to say that this question will be unhesitatingly answered in the negative, and yet it will be very difficult indeed to suggest any tenable ground for distinguishing between the relations and liabilities of the parties in these supposed cases and the case at bar.

I freely concede that one who adopts a profession which has to do with matters affecting the health and lives of those whom he serves is properly held to a high degree of responsibility, and is required to exercise care reasonably proportioned to the delicacy and importance of the duties he undertakes to perform. While there are doubtless occasional exceptions it is a matter of common observation that the medical profession of to-day is keenly alive to its responsibility. No profession excels it in thoroughness of preparation.

The true physician never ceases to be a student, never flags in zeal for more thorough mastery of the mysterious laws of human life and human health. In entering the practice he assumes grave risks. Both law and public sentiment demand of him a skill which adequately reflects the accumulated experience of the profession since the day of Hippocrates, and the breadth of scientific knowledge which is characteristic of the present age.

Though he does all a man can do and gives to a case the best fruits of a life of earnest study and investigation, he can not escape carping criticism, and the sick or injured person who is disappointed by his physician's inability to perform a miracle is easily persuaded to find solace in a malpractice suit, in which a sympathetic jury stimulated by the sight of a wasted or crippled human form, is led to put a brand of undeserved reproach on one who merits the entire confidence and respect of the community.

Every physician who answers an emergency call, even though it be one of the numerous "charity cases" which daily demand much of his time and attention, takes his professional life and reputation in his hand, and when having vainly exhausted all the resources at his command some person inspired by ignorance, or malice, or hope of blackmail, holds him up with a damage claim, he ordinarily finds it to his advantage to submit to unjust exaction rather than risk the uncertain outcome of such controversies in a court of justice.

This court, while not relaxing the rule which insists that men holding themselves out as physicians shall exercise the care and skill befitting the profession, ought not to unduly increase the burdens of that profession or make its practice so onerous and hazardous as to drive therefrom its reputable members, yet I feel warranted in saying that such result can not be avoided if the legal liability of the physician is to be extended materially beyond the limits which have been recognized and established in our earlier adjudications on this subject.

Justice Weaver dissents also from the conclusion that, if the junior physician was chargeable with negligence, his partner was equally liable with him. He says that even if we assume that the former was wheeling the car at the time of the accident, though it is conceded he was not, he was engaged not in the business of the partnership, but was voluntarily doing or assisting in the work of a hospital attendant. His partner was not present, took no part in the service being performed at that time, and should be exonerated from all the liability. The judgment appealed from should be reversed.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

July 9

1 *The Sanctity of Medicine. T. F. Harrington, Boston.
2 Obliterating Endarteritis. Types and Their Surgical Importance. C. F. Painter, Boston.
3 *Obscure Fever in Infancy and Early Childhood. J. L. Morse, Boston.
4 An Instrument for Separating the Jaws. W. Rollins, Boston.
5 Acetonuria. A. G. Rice, Springfield, Mass.

1. **Sanctity of Medicine.**—After a historical retrospect of the relations of medicine and religion from the earliest times, Harrington discusses the limitations of laboratory methods, the psychic element in healing, the rehabilitation of the family physician of the old school, "not as a general practitioner, but as the adviser and guide to the individual and to the family in all problems of health, and in the choice of a specialist, as well as to groups of individuals in their duty toward the state." He must take the leadership in questions of public health and morals. The popularization of medical knowledge is essential. "Medical things and the medical view and relation of affairs are as much the property of the public and subject to its review as [those] in any other department of life."

3. **Obscure Fever in Infancy.**—Morse refers not to elevations of temperature which are obscure merely because a careful physical examination has not been made, but to certain forms having inherent difficulties, by the occasional absence of distinguishing symptoms, etc. He enumerates and discusses pneumonia, endocarditis, typhoid and malaria, eczema, fever in the new born, dentition, toxic absorption from tonsils and adenoids, otitis media, cervical adenitis, bronchial adenitis, pyelitis, anemia, rickets, syphilis, tuberculosis and intestinal toxemia.

New York Medical Journal.

July 11.

6 Course in Obstetrics in the University of Pennsylvania. B C. Hirst, Philadelphia
7 A Plea for More Sanatoria for the Consumptive Poor in all Stages of the Disease. S A Knopf, New York.
8 *Significance of Blood Analysis in Appendicitis. C C Sichel, New York.
9 *Management of Chronic Endocarditis During the Stage of Compensation. S A Stein, New York.
10 Treatment of Delirium Tremens. W T Dannreuther, New York.
11 Biochemical and Anatomic Changes Induced in Dogs by Potassium Cyanid. W H Welker and N E Ditman, New York.
12 Paroxysmal Hemoglobinuria. E G Ballenger, Atlanta, Ga.
13 Treatment of Erysipelas. D B Allen, New York.

8. **Blood Analysis in Appendicitis.**—Sichel considers that the solution of the question of when to operate in appendicitis depends on the careful study of the blood. From a study of over 50 cases he decides that, imperfect as is the study of the blood, when an infection is present and absorption starts in appendicitis blood change will inevitably occur. The blood picture is similar to those seen in infections elsewhere, though the counts are not always so high. Leucocytosis varies from 12,000 to 25,000 or 30,000. Polynuclear counts show from 80 per cent. to above 90 per cent., usually in the neighborhood of 83 per cent. With the first leucocytosis and increase of the distinctive polynuclear percentage he says, we should operate at once. When there is no increase in the counts he advises watching the blood picture in repeated examinations and being guided by the findings plus the patient's general symptoms.

9. **Chronic Endocarditis.**—Stein discusses the management of chronic endocarditis with compensation. Alcohol, tobacco, tea and coffee should be limited or interdicted. Obesity may require reduction, which can be safely accomplished only with the greatest care in diet, exercise, and drug treatment. Complicating diseases, e. g., derangements of the digestive organs, the lungs, the kidneys and all emunctories, must be looked after; avoidance of shock to the nervous system is important. Rest in the recumbent position and sleep are essential. He discusses the variety of causes of sleeplessness and dilates on the value of hydrotherapy. Of drugs, codein alone or in combination with one of the urea group of hypnotics is most generally useful, the bromids, if used, must be used with caution; chloral is well borne when compensation is good. The two great factors requiring attention are the heart itself, its special lesion and muscular condition, and the condition of the arteries. He discusses them both in detail and concludes with a consideration of the advantages conferred by modern instruments of precision.

Medical Record, New York.

July 11.

14 *Conquest of the Venereal Diseases. H Ellis, London, Eng.
15 Significance of Wash Water Examinations for Gastric Cells in Diagnosis of Atrophic Gastritis. A Bassler, New York.
16 *Nerve Anastomosis in Infantile Paralysis. K Osterhaus, Norfolk, Va.
17 Insanity: Its Genesis and Transmissibility. S W Smith, New York.
18 Lactic Acid Bacilli Cultures in Nose, Throat and Ear Work. H H Curtis, New York.
19 *Cases, Other than Obstetrical, in which Hypodermatic Injections of Ergot Have Been of Great Service. E P Robinson, New York.

14. **Venereal Diseases.**—Ellis considers the arguments of those who hold it unnecessary to show any sort of recognition of venereal diseases, and immoral to do anything that might seem to involve indulgence to those who suffer from such diseases. He says: The man who is run over in crossing the street, the family poisoned by unwholesome food, the mother who catches the disease of the child she is nursing, all these suffer as the involuntary results of the voluntary act of gratifying some fundamental human instinct—the instinct of activity, the instinct of nutrition, the instinct of affection. The instinct of sex is as fundamental as any of these, and the involuntary evils which may follow the voluntary act of gratifying it stand on exactly the same level. This is the essential and fundamental fact: a human being in following the human instincts implanted within him has stumbled and fallen. The majority of those who contract venereal diseases by illegitimate sexual intercourse are young. They are youths, ignorant of life, scarcely yet escaped from home, or they are young girls, who have indeed ceased to be absolutely chaste, but have not yet lost all their innocence, and who do not consider themselves, and are not by others considered, prostitutes: that, indeed, is one of the rocks on which the system of police regulation of prostitution comes to grief, for the police can not catch the prostitute at a sufficiently early age. The general acceptance of the fact that syphilis and gonorrhea are diseases, and not necessarily crimes or sins, is the condition for any practical attempt to deal with this question from the sanitary point of view, which is now taking the place of the antiquated and ineffective police point of view. The Scandinavian countries of Europe have been the pioneers in practical modern hygienic methods of dealing with venereal diseases. The fearless and energetic temper of the people impels them to deal practically with sexual difficulties, while their strong instincts of independence render them averse to the bureaucratic police methods which have flourished in Germany and France. They have more or less completely organized the system of putting venereal diseases under the common law and dealing with them as with other contagious diseases. The first step in dealing with a contagious disease is to apply to it the recognized principles of notification. If we dispense with the paternal method of police regulation, if we rely on the general principles of medical hygiene, and for the rest allow the responsibility for his own good or bad actions to rest on the individual himself, there is a further step, already fully recognized in principle, which we can not neglect to take: We must look on every person as accountable for the venereal disease he transmits. So long as we refuse to recognize venereal diseases as on the same level as other infectious diseases, and so long as we offer no full and fair facilities for their treatment, it is unjust to bring the individual to account for spreading them. It may be necessary to point out that every movement in this direction must be the spontaneous action of individuals directing their own lives according to the rules of an enlightened conscience, and can not be initiated by the dictation of the community as a whole enforcing its command by law. In these matters law can come in only at the end, not at the beginning.

16. **Nerve Anastomosis and Infantile Paralysis.**—Osterhaus expresses his firm conviction that to nerve anastomosis we must look for the most beneficial results in many cases of infantile paralysis—results which can never be obtained from the other operative measures now in use, and which will be the means of converting into useful citizens many little sufferers who otherwise would be doomed to lifelong dependence on crutches or braces, burdens to themselves and to the community.

19. **Ergot.**—Robinson refers to the writings of A. T. Livingston in reference to the use of *ergot in other than obstetrical conditions*, and says that during the past 7 years he has used ergot hypodermically with gratifying results in over 300 cases of acne rosacea. He used the deep gluteal injections, and reports three cases selected from many of various kinds illustrative of its uses. They represent respectively acne rosacea, varicose veins in an obese aged woman, and extreme nervousness with defective venous circulation associated with excessive cigarette smoking.

Lancet Clinic, Cincinnati.

July 4

20 Interstitial Nephritis. D. O Hancock, Henderson, Ky.
21 *A Paranoiac. J. R Smith, Cincinnati.
22 The Tuberculin Ocular and Cutaneous Reactions. H Aufmwasser, Covington, Ky.
23 Vaccine or Tuberculous Therapy in the Treatment of Tuberculosis. H B Weaver, Asheville, N C.
24 Direct Laryngoscopy, Tracheobronchoscopy; Esophagoscopy, Gastroscopy. R H. Johnston, Baltimore, Md.
25 Requirements for Entry to the Medical Colleges of Minnesota. E J. Wilson, Columbus, Ohio.

21. **A Paranoiac.**—Smith reports a case, an interesting feature of which is a facsimile reproduction of a diagrammatic sketch of himself by the patient, showing what he considered to be his condition.

Archives of Internal Medicine, Chicago.

June

26 *Use and Value of Tuberculin in Diagnosis of Pulmonary Tuberculosis. L Hamman, Baltimore.
27 *Experimental and Critical Study of the Etiology of Chronic Nephritis. H Emerson, New York.

28 *Prevention of Tropical Abscess of the Liver by Early Diagnosis and Treatment of Presuppurative Stage of Amebic Hepatitis L Rogers Calcutta India
29 *Snake Poisoning in the United States P. Willson, Washington, D C

26 **Value of Tuberculin in Pulmonary Tuberculosis**—Hamman discusses the tuberculin reaction theoretically, the significance of tuberculin hypersensitiveness, the clinical features of the tuberculin reaction, the criteria of a reaction to tuberculin, the dangers of a tuberculin reaction, the clinical interpretation of tuberculin hypersensitiveness and the clinical method of demonstrating it, and the cutaneous and the conjunctival tests He summarizes his considerations practically as follows. While tuberculin is a valuable aid in the diagnosis of pulmonary tuberculosis it must be used with care and the results interpreted with caution. The reaction is probably a specific one, but it must be borne in mind that a very insignificant lesion may produce tuberculin hypersensitiveness and the prevalence of such lesions should be fully realized A negative reaction is considered decisive information, as is also a focal reaction In the absence of a focal reaction, tuberculin hypersensitiveness must be viewed as one phase of the clinical picture, and judgment must not be too much warped by its presence As a clinical procedure, no routine scheme can be advised, as the method must be altered to meet conditions as they arise For adults some such scale as 0 2, 0 5, 1 and 5 mg may be suggested, for young children 0 1, 0 2, 0 5 and 1 mg The cutaneous reaction is too delicate an indicator to be of any value in diagnosis unless the reaction be negative, which it seldom is in adults The eye reaction gives results more nearly in accord with clinical experience, but by no means of absolute certainty Hamman does not feel that it can supplant the subcutaneous method For some time the two should be used together, but not simultaneously Eye inoculations should precede the subcutaneous by a few days

27 **Chronic Nephritis**—Emerson records a series of careful experiments on fourteen dogs, extending over 26 months, undertaken to establish the effects on the kidney of repeated general vasomotor dilatation, of mechanical injury of its substance, and of various drugs injected directly thereinto, and of the effect on the kidney of increased viscosity of the blood due to the addition of gelatin to the blood stream, and of solutions of adrenalin chlorid and of lead acetate The following are the conclusions drawn From experimental results it would appear that interference with the blood supply of the kidney can be accomplished by means of chemical injury to the renal parenchyma, and that the process of repair which ensues may involve such a destruction of secreting tissue as to cause the death of the animal From the experimental use of general vasodilators, it appears that the kidney suffers at least mild grades of degeneration, which may be due, not to the specific renal irritation of the drugs employed, but to the defective blood supply which frequently repeated vascular relaxation causes From an analysis of the accepted causes of chronic nephritis in man it is evident that many of them have as a common factor a more or less severe and prolonged stagnation in renal blood supply, and, although this factor is often accompanied by the presence of irritants which we recognize as injurious to the kidney tissue, insufficient blood supply alone will cause, first, an error in the function, and later, an alteration in the structure of the kidney As convincing proof of the true cause or causes of chronic nephritis in man is not present, we must perforce accept as a theory one which will account for most of the known facts Loeb's explanation of the probable sequence of the circulatory events coincident with the course of chronic nephritis in man might reasonably be supplemented by an explanation of the etiology of nephritis which recognizes as a frequent, if not an invariable factor, deficient renal circulation Faulty function always results from deficiencies of blood supply, and if the defects persist or are frequently repeated faulty structure results In the case of the kidney, the fault in its function resulting from the altered structure in chronic nephritis will cause much or little disturbance in the body at large, according to the degree of circulatory compensation which can be maintained Cardiac disease, bacterial toxins, and metabolic waste products are probably the causes of the errors in circulation which cause, first, faulty function in the kidney, and, finally, chronic nephritis If this theory of etiology i supported by subsequent study, its application to the pre vention of nephritis might strengthen existing efforts to check the spread of infectious disease, and to urge moderation in th habits of overstimulation and overwork, which are prominen in present day life in large centers of population

28 **Tropical Liver Abscess**—Rogers' experience leads him t believe that 90 per cent of amebic abscesses of the liver ca be prevented by the use of large doses of ipecac The drug must be given in freshly made pills or bolus, no food or drink being given for several hours before and after the dose, which is best given once a day in the evening Vomiting must no be produced, particularly if abscess has already formed T prevent it, tincture of opium or chloral hydrate may be given about twenty minutes before the ipecac, or the ipecac may be put up in keratinized capsules, which do not dissolve before reaching the intestine (Rogers), or the pills may be coated with melted salol (Grubbs) The daily dose is from 30 t 60 grains of ipecac, continued for at least two weeks, but a increasing intervals

29. This article was discussed editorially in THE JOURNAL July 11, 1908, p 132

American Medicine, New York.

May

30 Syphilis W P McIntosh, U S Public Health and Marine Hospital Service
31 *Orthotic Albuminuria, Its Relation to Tuberculosis F T B Fest Las Vegas N M
32 Tonsillitis R O Semmes Camden Ala
33 Errors of Refraction and Balance of the Eyes and Their Bearing on General Health J R Shannon New York
34 Complications and Sequels of Measles H R. M Landis Philadelphia
35 Case of Traumatic Rupture of Descemet's Membrane and Defects of That Membrane E B Coburn New York
36 Nasal Obstructions J G Parsons, Sioux Falls, S D

June

37 Clinical Types of Eclampsia (Toxemia) as Viewed by the Specialist for the Benefit of the General Practitioner E H Grandin, New York
38 Treatment of the Puerperal Eclamptic Attack R Cronson, New York
39 The Action of Remedies Usually Employed in Puerperal Eclampsia T F Reilly New York
40 Syphilis (Concluded) W P McIntosh, Portland, Me
41 The Spirit of 1908 in Medical Affairs H E Lewis, New York
42 A Medical Need F C Clark, Providence, R I
43 *Gastric Secretion in Old Age J. Friedenwald Baltimore

31 **Orthotic Albuminuria**—Fest concludes that in regard to orthotic albuminuria we are unable to give any chemical test an exclusive significance as our chemical means so far are too limited Orthotic albuminuria is of apparently obscure hematogenetic or functional origin of various natures, so that every case has to be considered individually and treated accordingly Orthotic proteinuria merits attention only as a manifestation, not as a disease

43 **Gastric Secretion in Old Age**—Friedenwald reports observations on the gastric secretion in 27 persons over 51, and in no instance did any case present symptoms indicating the presence of any gastric disorder He concludes that from these observations, as well as from those of Leifschutz and others, it is evident that the gastric secretion has a tendency to diminish in old age, and in a degree proportionate to the arteriosclerosis, and it is therefore unwise to attach too much importance to the absence of this secretion in individuals advanced in years, in the diagnosis of cancer of the stomach

Journal of Inebriety, Boston.

June

44 Relation of Alcohol to Physical Deterioration and National Efficiency W M Eccles London Eng
45 Psychic Treatment of Inebriates T D Crothers Hartford Conn
46 Coffee and Tea Poisoning A Gouget, Paris France
47 Disease and Mortality from Alcohol D H Kress, Washington D C
48 Gelseminin in the Morphin Habit W F Waugh Chicago
49 Alcoholic Insanity M F Toner Hanford Cal
50 *Certain Aspects of the Tobacco Question M Woods Philadelphia
51 Mental Defects Following the Use of Alcohol J T Fisher, Los Angeles

50 **Tobacco**—Woods singles out the tobacco question from other habits, inasmuch as this drug, he says, had no beneficial use in any medical sense, making it necessary or proper for us to recommend it He denies that it aids digestion that it

prevents lean people from getting stout or vice versa, that it possesses any power to preserve the teeth from decay, or to neutralize the poison of contagion. It is not a disinfectant or a remedy for any pathologic condition. While the Dispensatory credits it, when moderately taken, with quieting restlessness, mental and corporeal, he holds that to treat such mere symptoms with a narcotic is merely to deaden the result of a disease while leaving the cause untouched. On the other hand, he lays stress on its evil influences and particularly calls attention to the practice among tobacconists of enclosing suggestive and salacious pictures in tobacco packages. He suggests that the soporific calm and the obscene picture are hand and glove in the production of sexual immorality.

Journal of the Indiana State Medical Association, Fort Wayne.

May

52 History, Causes and Prevention of Tuberculosis M Ravdin, Evansville
53 General Management of Tuberculosis J Y Welborn, Evansville
54 Medical Treatment of Cystitis in the Female E R Beard, Liberty
55 Suppuration of the Accessory Nasal Sinuses J F Barnhill, Indianapolis

June

56 *Practical Application of Opsonic Therapy. J V Reed, and H S Thurston, Indianapolis
57 Value of the Microscope and Test Tube in Diagnosis B W. Rhamy, Fort Wayne
58 *Ocular Tuberculin Reaction G. F Keiper, Lafayette

56 **Opsonic Therapy.**—Reed and Thurston describe briefly the principles of opsonic treatment and its method of administration in acne, boils and furuncles, acute infections following wounds, old sinuses, gonorrheal, streptococcus and tuberculous infections, and infections of the mucous membranes and their glands. They discuss the respective merits of stock and autogenous vaccines and urge the importance of using the latter whenever practicable. They describe in detail, with illustrations, the technic of estimating the opsonic index. They regard the determination of the index for most bacterial infections as generally unnecessary, except for tuberculosis, in which disease it should be frequently taken, especially during the first few weeks.

58 **Ocular Tuberculin Reaction.**—Keiper summarizes the literature on this subject and concludes that the value of the ocular tuberculin reaction as a diagnostic test for tuberculosis can not be ignored.

American Journal of Physiology, Boston

June

59 *Diastase in Cat's Saliva A. J Carlson and J. G Ryan, Chicago
60 *Influence of Salts and Non Electrolytes on the Heart S R Benedict, New Haven, Conn
61 Excretion of Bromids by the Kidney. W. Hale and C. Fishman, Ann Arbor, Mich
62 *Effect of Potassium Iodid on the Activity of Ptyalin C. H. Neilson, and O P Terry, St Louis
63 *Behavior of Muscle After Compression. L J. Henderson, G A Leland, Jr, and J H Means Boston
64 *The Resuscitation of the Glands and Muscles After Temporary Anemia F. H Pike, C C Guthrie, and G N. Stewart, Chicago
65 *The Variable Factors Involved in Faradic Stimulation. E. G Martin, Boston
66 Relation of Ions to Fibrillar Contractility. R. S. Lillie, Philadelphia
67 *Excess of Chlorids in Lymph A J Carlson, J. R Greer and A B Luckhardt, Chicago
68 *The Lymphagogue Action of Lymph A J. Carlson, J. R. Greer, and F C Becht, Chicago
69* The Calibration of the Inductorium for Break Shocks in Faradic Stimulation E G Martin, Boston
70 *The Refractory Period and the Period of Varying Irritability in Heart Muscles W H Schultz Baltimore
71 *Influence of Cold and Mechanical Exercise on the Sugar Excretion in Phlorhizin Glycosuria G Lusk, New York
72 Production of Sugar from Glutamic Acid Ingested in Phlorhizin Glycosuria Id
73 *Temperature Coefficient of the Velocity of Nerve Condition. C D Snyder, Baltimore
74 Galvanotropism in Bacteria J F. Abbott and A C Life, St Louis

59. **Diastase in Cat's Saliva.**—Carlson and Ryan found the saliva of the cat to contain a diastase, the action of which is much feebler than that of human saliva. The submaxillary saliva is stronger than that of the parotid gland and the diastasic action is greater in saliva secreted under excitation of the sympathetic than under that of the chorda tympani. The diastasic content of the saliva is much less than that of the blood serum of the cat, but it is increased by the intravenous injection of human saliva or of pancreatin, but not by the injection of malt diastase. From these observations authors conclude that the diastase of the cat's saliva is not a specific secretion of the salivary glands, but is derived by transudation from the blood. A similar condition exists in the dog, although the dog's saliva frequently does not contain diastase at all

60 **Heart Action.**—Benedict sustains the proposition that the rhythmic action of the heart depends on a certain degree of tonus, and the reason why a latent period is observed when a strip of turtle's heart is placed in solution of sodium chlorid is that time is required by the strip to reach the requisite degree of tonus. It is not caused by lack of calcium ions or of available oxygen, neither is it due to asphyxiation. The balance of experimental evidence is at present strongly against the acceptance of Langendorf's hypothesis, that the products of the heart tissue's own metabolic activity constitute the stimuli to rhythmic contractions. The facts also are against the assumption that oxygen and calcium compounds act by favoring oxidation. Under certain conditions non electrolytes may induce a series of beats in ventricular tissue. The anion probably plays an active rôle in the action of salt solutions on heart tissue.

62. **Action of Potassium Iodid on Ptyalin.**—Neilson and Terry have found that potassium iodid both in the test tube and when given internally markedly increases the diastasic activity of the saliva.

63. **Compression of Muscle.**—Henderson, Leland and Means find that a pressure of 500 atmospheres is probably not in itself harmful to muscle tissue. The observed harmful effects of compression in other cases have been probably due either to too rapid compression and decompression, or, what amounts to the same thing, to irregularity in compression or in decompression.

64. **Resuscitation.**—The experiments of Pike, Guthrie and Stewart were conducted by producing prolonged anemia of the brain by clamping the cerebral vessels. The results seem to show that the secretion of saliva and of tears is in a measure independent of the nervous system, and may be revived on the introduction of artificial circulation, before the return of sensibility in the nervous system. It may also fail while the nervous system is still active. The flow of lymph does not seem to be dependent on the action of the nervous system. The muscles in all experiments in which they were subjected to the same conditions were found to be more easily resuscitated than the nervous tissues. The authors have seen no case of permanent paralysis following anemia which could be shown to be due to muscular and not to nervous causes. The *excitability of the muscles to direct stimuli persists longer* and returns earlier than that to indirect. The motor endings succumb more quickly than the muscles themselves. Spasms of the skeletal muscles originate in the central nervous system. They cease in the parts below the plane of section when the spinal cord is transected. Prolonged anemia of the mother accompanied by severe spasms resulted in the death of only one out of four fetuses. There was no evidence of the formation of any toxic substance during the convulsions that affected the fetus. There was no evidence of the occurrence of severe spasm of the fetus *in utero*.

65 and 69. **Quantitative Study of Faradic Stimulation.**—In his first paper Martin insists on the value to the physiologist of a means of measurement of faradic stimuli, and discusses the factors determining the strength of such shocks. He concludes as follows

> If the values of faradic stimuli are to be expressed by a system of units, each unit will have to comprise the following factors:
>
> 1 One which shall state the efficiency of the particular inductorium used in terms of a standard, and also the efficiency of the secondary in the position it occupies relative to the primary, this factor being different for make and break shocks
>
> 2 One which shall give the intensity of the primary current, corrected for voltage when make shocks are used, and, if necessary for the magnetization of the iron core, when break shocks are to be measured
>
> 3 One which shall state the effect of the contact key used in terms of a standard
>
> 4 A reducing factor for bringing make and break shocks to common terms, made necessary by the fact that they are to be measured by different calibrations

In the second paper Martin deals with the calibration of the inductorium for break shocks and summarizes his conclusions, but as the latter are chiefly of technical interest, they are here omitted.

67. **Physiology of Lymph.**—Carlson, Greer and Luckhardt find a considerable increase in the chlorids of the neck lymph of the dog over those of the serum, and this amount is more than sufficient to acount for the difference in osmotic concentration. The excess of chlorids in the lymph seems to these investigators to render the filtration and transudation theories of lymph formation untenable.

68. **Idem.**—Carlson, Greer and Becht show that the lymph is secreted in the salivary glands in opposition to the osmotic pressure, and they accept the conclusion that some other mechanism than that of osmosis must be depended on to explain the secretion of lymph. They call attention to what they say is now a demonstrated anatomic fact, that the lymphatic system is a closed system of vessels, and hence that the lymph found in these vessels is distinct from the lymph in the tissue spaces. The only factors coming into play in the production of lymphatic lymph are, therefore, the vessel walls of the lymph and blood capillaries. As the osmotic theory is insufficient, the authors suggest the action of a hormone to explain the production of lymph. They have produced some experimental evidence to show that such a hormone exists. Its mode of action is still uncertain.

70. **Heart Muscle.**—Schulz concludes his article as follows:

> 1. The absolute refractory period continues to bear a constant relation to the duration of systole, whether the agents used increase or decrease the irritability of muscle. In other words, if S equals the duration of systole and R the absolute refractory period, the ratio R/S is approximately constant.
> 2. It is suggested as a possible explanation of the absolute refractory period that on the initiation of a contraction all of the dissociable material is used up, and that the colloidal particles undergo a change in size and position, and that so long as these conditions obtain, it is impossible for the tissue to contract.
> 3. Experimental data suggest that the inorganic salts of sodium calcium and potassium play an important part in reforming the dissociable material, and it is probable that calcium in physiologic amount in some way acts as an accelerator.

71. **Phlorrhizin Glycosuria.**—Lusk believes that he has established the general validity of the ratio D:N = 3.65:1 in fasting and meat-fed dogs. He has shown that this ratio does not vary after the ingestion of fat and his present experiments indicate that cold and mechanical work, which greatly increase the combustion of fat, may under proper conditions be without influence on the D:N ratio. All these facts prove that while sugar is derived from protein it is not derived from the metabolism of fat. A large ingestion of fat may possibly lead to the formation of a small amount of dextrose from the rapidly absorbed glycerin component of fat, but this result has never been seen in his laboratory. Lusk criticises the work of Rubner and of Hartogh and Schumm, who obtained higher ratios than 3.65 to 1.

73. **Temperature Coefficient of Nerve Conduction.**—Snyder finds the temperature coefficient of nerve conduction to lie generally between 2 and 3, but in exceptional cases it is less than 2 or more than 3. These variations are not to be attributed to irregularities of the recording apparatus, but are unusual periods produced by some variation in the condition of the nerve itself. As they are not accounted for by the physical conditions, the author seeks a chemical explanation which he believes can be found in a difference in chemical time reaction of the conducting substances of the nerves. The observed constants admit of periodic arrangement in which the unusual or "freak" velocities take a normal and rational position. This periodic variation of velocity at constant temperature is explained by assuming that more than one complex of molecules exist in the nerve substance which, singly or in combination, by undergoing chemical change, brings about the phenomena of conduction. The several complexes differing from one another (possibly only slightly) in their chemical relations may thus also differ in their reaction times. This explains to some extent variations in the *tempo* of sensory and motor reflexes and even of "moods" and entire bodily activities. Theories based on the assumption that nerve conduction is a purely physical phenomenon are no longer tenable, because the temperature coefficients of the assumed physical phenomena are greatly less than for conduction of the nerve impulse itself. Any successful theory of nerve must take into account, or at least be in harmony with, the temperature factor.

Journal Missouri State Medical Association, St. Louis.

June.

75 Relations of the Medical Profession with the Public. W. S. Allee, Olean, Mo.
76 *The Everyday Fight on Consumption. G. Homan, St. Louis.

76. **The Fight Against Tuberculosis.**—Homan appeals to the evidence of what has been done in the way of disease extermination with typhus, scurvy, leprosy, smallpox, etc. He points out that, whereas a hundred years ago the fact that a person's face was not scarred with smallpox was used as a mark of personal identification and mentioned in official descriptions, the opposite is nowadays the case, the presence of pitting, not its absence, being the remarkable feature. He urges systematic instruction of the coming generations in school in regard to the intelligent prevention of tuberculosis. The coming generation being well instructed would demand in no uncertain tone from their legislative and official servants the voting of ample means to prevent the cruel, needless waste of human life now prevalent.

Detroit Medical Journal.

June.

77 The Medical Profession: Then, Now and Hereafter. H. Wilson, Detroit.
78 It Pays to be Healthy. W. A. Evans, Chicago.
79 *Early Diagnosis of Extrauterine Pregnancy. G. Van A. Brown, Detroit.

79. **Extrauterine Pregnancy.**—Brown emphasizes two points, to one of which he can find no reference in the literature, and to the other brief mention by only one writer. With reference to certain points of tenderness he believes that by a careful consideration of the following conditions one may be led to a certain diagnosis between appendicitis and extrauterine pregnancy: In appendicitis there is unilateral abdominal rigidity, with the extreme of tenderness over McBurney's point. If the trouble is anywhere in either broad ligament the extreme of tenderness is found over both the right and left lumbar ganglia, which are situated one inch and a half external to the umbilicus; the right one on a line from the anterior superior spine of the right ilium to the umbilicus, the left one on a line extending to the left anterior superior spinous process. As to the value of the blood count in excluding septic processes, he says that with pus present in either the tube, ovary, cul-de-sac, or appendix, there is a leucocytosis, which is not present in an unneglected extrauterine pregnancy. Other points which he considers erroneous are: 1. That temperature is necessarily subnormal in rupture of tube; it may be febrile. 2. It is not true that there is a fixed ratio in pulse and temperature. 3. Internal hemorrhage may be due to other causes, e. g., rupture of appendicular artery. 4. The presence or absence of uterine decidua can not be held of diagnostic importance, for chorionic villi may come from the tube and be found in the uterus, or uterine decidua may be cast off at the time of rupture, abortion, or on the death of the embryo, and thus be absent when sought for. He summarizes the salient points of diagnosis as follows: Disturbance of menstruation, short colicky pelvic pains, presence of a mass connected with adnexa, enlargement of uterus, no leucocytosis, and tenderness over both right and left lumbar ganglia.

Kentucky Medical Journal, Bowling Green.

May.

80 History of the State Board of Health. J. N. McCormack, Bowling Green.
81 Congenital Dislocation of the Hip. J. B. Richardson, Jr., Louisville.
82 Training, A Prophylaxis for Nervousness. E. D. Burnett, Louisville.
83 Etiology and Symptomatology of Abortion and Miscarriage. O. W. Doyle, Louisville.
84 Prophylaxis and Medical Treatment of Abortion and Miscarriage. W. B. Doherty, Louisville.
85 Surgical Treatment of Abortion and Miscarriage. H. A. Davidson, Louisville.
86 Experiences with Certified Milk in Cincinnati. O. P. Geier, Cincinnati.
87 Clean Milk in its Economic and Medical Relations with Special Reference to "Certified Milk." H. L. Coit, Newark, N. J.
88 Treatment of Fracture of the Spine. J. T. Dunn, Louisville.

14 Diving and Caisson Disease. N. H. Mummery.
15 Compressed-Air Illness. C. G. Grant.
16 *The Mentally Defective in Prison. J. M. Rhodes.

10. See Abstract 1.

13. **Eczema.**—Kesteven says that while the theory that eczema is the direct result of specific dyscrasia, or "blood humors" has been dropped, the view that certain pathologic states are frequently the indirect factors in the causation of eczematous attacks may be accepted without cavil on the evidence of the multiform eczemata we meet with accompanying or following such states. The origin of such eczemata, however, is to be attributed to neurotic action. He applies that principle to the consideration of "gouty eczema," eczemas consequent on uterine disorders and in mental cases, especially imbecility, and even to cases in which a local irritation is the exciting cause. Eczema may thus be divided into two classes for purposes of treatment: (1) That from within, acting through the sympathetic chain of the functional system, may be denoted the ganglionic or idiopathic form; and (2) that arising from external or local irritation, the peripheral or traumatic. For treatment he speaks highly of the application of pure liquid carbolic acid. Tincture of iodin is also useful; or the following, which he describes as a "happy combination":

R. Tincturæ iodi .... 1|
Solutionis acidi carbolici (10%)............. 9|

This is applied on lint under oil silk. All these applications are painful for a short time, but the pain rapidly subsides, leaving a scab. Suprarenal extract is a good application prior to the carbolic acid, as it reduces turgescence and exudation. Greasy applications should be applied only in the dry desquamative stage.

16. **Mentally Defective Prisoners.**—Rhodes discusses the condition of the mentally defective criminal in British prisons and draws conclusions, some of which are here quoted as being of more than local interest. Prisoners should be classified so that those who (quoting Mercier) "have done wrong in the pursuit of gratifications for themselves by the intentional injury of others" shall be firmly dealt with, while the weak-minded, the ignorant, the misled, shall have the punishment "made to fit the crime," i. e., related to the actual degree of responsibility of the culprit. The present confinement of all prisoners alike is expensive; the dangerous criminals must be confined in prisons, but for less serious offenses the state farm would be more useful and remedial. An expert alienist should be attached to each prison, as in Belgium. The habitual drunkard laws, which now let many go uncontrolled until they are confirmed dipsomaniacs, should be remodelled on the lines of the Massachusetts laws.

Medical Press and Circular, London.

June 24.

17 *Sciatica. R. A. Fleming.
18 Gallstone Surgery. D. Kennedy.
19 Diagnosis and Treatment of Syphilitic Neurasthenia. G. Millnin.
20 Treatment by Diet of Bronchial Asthma. A. C. F. Rabagliata.

17. **Sciatica.**—Fleming divides sciaticas into three groups or types: 1. Interstitial neuritis and perineuritis, due generally to wet and cold, rheumatism or gout; (2) neuralgia; (3) pressure on the sciatic nerve or roots of the sacral plexus, as in pregnancy, a loaded bowel, etc. He discusses these types as regards pathology, clinically, diagnostically, etc., and confines himself in respect of treatment to Type 1. He recommends large doses of sodium salicylate and sodium bicarbonate, with rest for the limb. Acupuncture is beneficial, using at least six sterilized needles, and leaving them in for half an hour. Injections are used, but 80 per cent. alcohol and from 1 to 2 per cent. osmic acid should never be used. Electrical treatment he has found disappointing. He mentions the breaking down of adhesions and nerve stretching.

Clinical Journal, London.

June 24.

21 Inter-Relations of Abdominal and Thoracic Diseases. W. H. Allchin.
22 Hematemesis; Its Varieties and Treatment. D. Duckworth.
23 Treatment of Early Gonorrhea in the Male. W. W. Powell.

Journal of Tropical Medicine and Hygiene, London.

June 15.

24 Spirochetosis of Cypriote Fowls. G. A. Williamson.
25 Rare Sclerostome of Man in Nyasaland. R. T. Leiper.
26 Seven-Day Fever of the Indian Ports. F. H. A. Clayton.

Australian Medical Gazette, Sidney.

May.

27 Leprosy. J. A. Thompson.
28 *Treatment of Asthma and Other Chest Troubles, with Reference to Outdoor Sleeping. E. S. Jackson.
29 *Treatment of Asthma. A. Stewart.
30 Value of the Ocular Reaction in Diagnosis of Tuberculosis. S. Gillies.
31 Treatment of Tuberculous Joint Disease by Open Cut and Exposure to Sunlight. H. Swift.
32 Management of Burns and Scalds. A. C. F. Halford.
33 Four Successful Interscapulothoracic Amputations. W. J. S. McKay.
34 Treatment of Increased Intracranial Tension. R. H. Martin.

28. **Asthma.**—Jackson insists on the importance of fresh air for asthmatics, and urges sleeping on the veranda, disregarding draughts. It is not enough to sleep with doors and windows open. In hot weather there is a greater tendency to perspire when sleeping indoors. He is convinced that oversweating is one of the causes of asthma, as well as of other chest diseases, and it is important to watch the amount of clothing that patients wear.

29. **Idem.**—Stewart uses calcium iodid in 4 grain (0.26) doses with 5 minims of liquor arsenicalis (B. P.) thrice daily. When wheezing disappears the iodid is discontinued and liquor arsenicalis hydrochloricus (B. P.) in 10 minim doses thrice daily after meals is given and continued for three months. When active symptoms have disappeared, respiratory exercises should be begun—any exercise that produces breathlessness. Dumb bells, clubs, etc., are useless to an asthmatic, but skipping develops the respiratory muscles, increases the pulmonary capacity, and flushes the lungs with blood. Stewart has treated asthma on these lines in over 60 cases, with 75 per cent. of permanent benefit.

32. **Burns and Scalds.**—Halford insists on the inadequacy of antiseptics, which, to a large extent, are not only useless, but a hindrance, in the prevention of suppuration after burns. He quotes Hektoen and Riesman to the effect that it is the dryness in dry gangrene that renders infection with saprophytic bacteria difficult or impossible. He draws an analogy between the separation of sloughs after burns and scalds and the separation of the navel string of infants. Dryness and promotion of evaporation are the cardinal principles, when attainable. On mucous surfaces, however, antiseptics may be used. The risk of septic poisoning from mucous cavities is not so dangerous as on the cutaneous surfaces, due probably to the free diapedesis, secretion and drainage following injury there. As a powder for application has been suggested one part of calamine (native zinc carbonate) to seven of Fuller's earth.

Annales de Gynécologie et d'Obstétrique, Paris.

June, XXXV, No. 6, pp. 321-384.

37 *Secondary Rigidity of External Os from Acute Puerperal Inflammation of Cervix. (Rigidité secondaire des bords de l'orifice utérin.) A. Couvelaire.
38 Eversion of Uterus. P. Delbet.
39 *Treatment of Cancer of Female Genital Organs. J. L. Faure.

37. **Rigidity of External Os from Acute Inflammation During Labor.**—Couvelaire reports two cases of acute inflammation of the cervix during labor, inducing tumefaction and induration, and preventing the os from dilating. Both patients were primiparæ of 24 and 26, respectively, and in each case a flap tore from the cervix during forceps delivery of a still-born child. There was evidently acute inflammation, hyperemia and much edema in the first case, but no edema in the second. In both, labor had been irregular and prolonged, with premature rupture of the membranes. Bacteriologic examination was negative.

39. **Cancer of the Female Genital Organs.**—Faure's article has been prepared to present at the International Surgical Congress at Brussels next September. He is an advocate of the abdominal route and reviews his experience as he has developed his technic. In 12 cases he operated by Wertheim's method and 9 of the patients operated on between 1902 and 1906 are in good health to date. Two have since died of recurrence, and one has been lost to sight. He discusses the

superior advantages of the abdominal route, especially when combined with the vaginal technic. The combined method allows dissection of the ureters much better than a laparotomy alone, while it prevents any hesitation in respect to the limits below of the parts to be removed. The vagino-abdominal operation is shorter than the abdominal operation alone, which is an important advantage for debilitated patients, especially if there are any complications.

Archives des Maladies du Cœur, etc., Paris.

June, I, No. 6, pp. 337-400.

40 Origin and Significance of the Protosystolic Wave of the Pulse in the Jugular Veins. L. Bard.
41 Mechanism of Propagation to the Apex of the Murmur in Mitral Incompetency. T. R. Bradshaw.
42 Pernicious Anemia and Kidney Lesions. M. Labbé and E. Joltrain.
43 Infantile Lymphoid Leukemia with Nucleated Corpuscles. B. Weill-Hallé and C. Aubertin.

Bulletin de l'Académie de Médecine, Paris.

June 16, LXXII, No. 24, pp. 675-713.

44 Gaseous Abscess in Displaced Liver. Couteaud and Le Dentu.
45 Hemimelia with Fusion of Fingers, etc. (Cas d'hémimélie avec syndactylie, synonychie et défaut de développement de plusieurs métacarpiens.) H. Hallopeau and François-Dainville.

Presse Médicale, Paris.

June 17, XVI, No. 49, pp. 385-392.

46 Frequency of Tuberculosis in Laundry Employés. (Métier et habitats des blanchisseurs dans leurs rapports avec la tuberculose.) L. Landouzy.
47 Official Disinfection in Rural Districts. J. Courmont.
48 Therapeutic Application of High-Frequency Currents. A. Zimmern.

June 20, No. 50, pp. 393-400.

49 Colloidal Silver in Infectious Diseases. (L'argent colloidal.) A. Netter.
50 Arrested Local Development from Burns in Childhood. (Atrophie numérique consécutive aux brulures de l'enfance.) A. Daniel.

Semaine Médicale, Paris.

June 17, XXVIII, No. 25, pp. 289-300.

51 Pelvic Abscesses Secondary to Peritonitis. (Abcès pelvi-péritonitiques.) F. Lejars.

Archiv für klinische Chirurgie, Berlin.

LXXXVI, No. 2, pp. 277-573.

52 *Treatment of Tetanus on Basis of Experimental and Clinical Studies. Especially the Attraction of Tetanus Toxin to Lipoid Substances. P. Bockenheimer.
53 *Megacolon. (Zur Hirschprung'schen Krankheit.) J. Petrivalsky.
54 *Treatment of Phosphorus Necrosis. D. Teleky.
55 *Experimental Transplantation of Suprarenal Tissue in Kidney. H. v. Haberer.
56 *Primary Cancer of Appendix. (Primärer Krebs des Wurmfortsatzes.) T. Voeckler.
57 *To Hasten Recovery After Laparotomy by Allowing Patients to Leave the Bed Early. (Abkürzung des Heilungsverlaufs Laparotomirter durch frühzeitiges Aufstehen.) H. Kümmell.
58 Further Modification of Technic for Intestinal Anastomosis with Actual Cautery. E. Capek.
59 *Postoperative Thrombosis-Embolism. A. Fraenkel.
60 [illegible] Following Firearm Wounds. [illegible] nach Schussverletzungen.)

52. Treatment of Tetanus Based on Attraction of Lipoid Substances for Tetanus Toxin.—Bockenheimer calls attention to the valuable aid in prophylaxis of tetanus that can be obtained by taking advantage of the affinity between tetanus toxin and fats. It has been shown that snake venom can be bound with cholesterin and botulismus toxin with lipoid substances, and he experimented with all these and with magnesium chlorid and sulphate, cod liver oil, liquid paraffin, olive oil, salves, vaselin and a Peruvian balsam salve. He describes his extensive research with guinea-pigs infected under conditions approximating those in man, and then given local preventive treatment. The best results were obtained with Peruvian balsam and vaselin. The former applied to the infected wound prolonged the period of incubation to twice the length of that in the controls. The addition of 10 per cent. antitoxin seemed to enhance this effect. If the tetanus developed it ran a much milder course. The same results could be obtained with a daily preventive injection of 0.2 c.c. per half pound of weight—smaller amounts being ineffectual. This is equivalent to 40 c.c. of antitoxin a day for a person weighing 100 pounds. He reviews the experiences with tetanus at von Bergmann's clinic during the last 25 years—a total of 29 cases with a mortality of 86.2 per cent. Three of the 20 patients who were treated with antitoxin recovered, one after amputation of the injured arm followed by antitoxin injected by every route. In every case terminating in recovery the incubation period had been long. He is an advocate of amputation or extensive excision, in case of severe injury, at the outbreak of the tetanus. In case of local tetanus, developing in the first two weeks, amputation gives the best chances for recovery. In local treatment he prefers hydrogen dioxid as it checks the growth of the tetanus bacilli and also destroys putrefaction bacteria. This local cleansing should precede the application of the Peruvian balsam salve every day.

53. Megacolon.—Petrivalsky says that we must distinguish between congenital megacolon and the secondary dilatation of the large intestine from various causes, principally from unusual length of the sigmoid. The true congenital megacolon is the result of a histogenetic anomaly of the mesentery, especially of its vessels, and of the wall of the intestine.

54. Treatment of Phosphorus Necrosis.—Teleky has encountered 11 cases at Vienna and describes them in detail. Ten of the patients had been employed in match factories and the other had been taking phosphorus internally for four years on account of osteomalacia. The necrosis was in the lower jaw in nine cases, in the upper jaw in four, and in two cases both jaws were involved. The case histories show the great advantages of patient waiting until the sequester has been spontaneously thrown off. This required about 11 months, but the process then was at an end, while early resection was mutilating and, owing to the impossibility of distinguishing the actual limits of the process, the disease generally continued its ravages uninfluenced. Conservative expectant treatment includes incision and drainage, antiseptic lavage of the cavity, and excochleation of the fistulous passage with extraction of the entirely detached sequester. An attempt to introduce a prosthetic appliance at once proved unsuccessful in one case. Phosphorus necrosis of the lower jaw does not offer favorable conditions for such measures.

55. Transplantation of the Suprarenals in the Kidneys.—Haberer transplanted one of the suprarenals into the kidney in 86 animals, including 61 dogs and 6 cats. Good functional results were obtained in 50 per cent. of the cases in which the pedunculated suprarenal was inserted in a slit in the kidney. Both the medulla and cortex survived, and both seemed to be equally important for the functioning of the organ. When the suprarenals were not functioning a typical syndrome was observed terminating in the death of the animal.

56. Primary Cancer of the Appendix.—Voeckler reports two typical cases and reviews seventy-eight in the literature. At no other point in the body does cancer make its presence known so early. The inflammatory reaction on the part of the appendix leads to operation while the lesion is still in its incipiency, which is the reason for the good prognosis.

57. Hastening Recovery After Laparotomy by Having the Patients Leave Bed Early.—Kümmell presented this appeal at the recent congress of the German Surgical Association with the arguments in favor of allowing the patients to get up the first day in some cases, on the second day in others, and the third day in all cases in which the operative wound is healing aseptically without fever. No inconveniences were observed in any instance.

59. Postoperative Thrombosis.—Fraenkel states that eighteen deaths from postoperative embolism of the pulmonary artery occurred in the Vienna General Hospital in 1906. Most of the patients were robust, and in advanced convalescence. He ascribes the thrombosis to metastatic infection from the wound or vicinity of the operation. The chief factor is paralysis of the intestine from the infection and inflammation. This is the source of the disturbances that appear later at remote points, such as parotitis, joint and bone affections and postoperative thrombosis—all conditions which may be regarded as septic metastases. Varicose veins afford a predisposition to thromboembolism. In a number of cases autopsy showed that the embolus in the pulmonary artery came from a fresh coagulum in a varicose vein in the leg. He regards every case of postoperative thromboembolism as a warning for revision of the entire system for insuring asepsis, as it shows a defective link somewhere in the chain. After the operation every effort must be made to combat any tendency to paralysis of the intestine.

Beiträge zur klinischen Chirurgie, Tübingen.

June, LVIII, No. 2, pp. 289-569.

61 The Galalith Intestinal Button. (Galalith-Darmknopf.) V. Lieblein.
62 *Hernia in Sacrosciatic Foramen. (Beiträge zur Kenntnis und Kasuistik der Hernia ischiadica an der Hand des ersten radikal operierten und geheilten Falles.) E. Köppl.
63 *Relations Between Thymus and Exophthalmic Goiter. (Beziehungen der Thymus zum Morbus Basedow.) Capelle.
64 Backward and Outward Subluxation of the Astragalus with Subluxation of the Cuboid Bone. Roith.
65 Arterial Blood Pressure in Surgical Kidney Affections and Appendicitis. (Verhalten des arteriellen Blutdruckes bei chirurgischen Nierenkrankungen und Appendicitis.) T. Kato and Kotzenberg.
66 *Plastic Operations on Kidney Pelvis and Upper Segment of Ureter for Hydronephrosis. (Plastische Operationen am Nierenbecken und oberen Ureterabschnitt bei den Retentionsgeschwülsten der Niere.) F. Kroiss.

62. **Sciatic Hernia.**—Köppl says that only 23 cases of hernia in the sacrosciatic foramen are on record in the literature for 150 years. He recently encountered such a case and corrected the tendency to hernia by a radical operation, the first time it had been attempted, to his knowledge. The pain from compression of the nerve by the hernia is important for the diagnosis, especially when accompanied by the ordinary signs of hernia. Differentiation is difficult and has been made only in the rarest cases.

63. **Relations Between the Thymus and Exophthalmic Goiter.**—Capelle comments on the remarkable frequency of the coincidence of an abnormally large thymus with severe exophthalmic goiter. He discusses the possibility of being able to diagnose the persisting large thymus during life. This question is of extreme importance for surgical treatment of exophthalmic goiter as the persistence of the thymus immeasurably enhances the risks of the operation. The condition of the heart is the touchstone for operative treatment, and experience has shown that the persisting large thymus is an almost invariable accompaniment of severe heart disturbances in these cases. He states the facts as: "A large Basedow thymus is, so to say, pathognomonic for a weak Basedow heart. incapable of standing the stress of an operation." He reports several instructive cases of this type. the patients standing resection of the thyroid without mishap, but the evening of the same day the heart developed "delirium cordis" and the patients succumbed in a few hours. The operations had been done under ether. Nothing was found at autopsy to explain the fatalities except a hyperplastic thymus. In 60 autopsy records that have been published, unusual size of the thymus was mentioned in 79 per cent. of the cases. Percussion, palpation, Roentgenoscopy and signs of the status lymphaticus may reveal the condition of the thymus. The discovery of enlargement of other glandular organs, the spleen, tonsils and follicular glands of the tongue, suggest the possibility of a persisting large thymus, a condition which may also be suspected when thymus preparations cause an aggravation of the exophthalmic goiter symptoms.

66. **Plastic Operations on Kidney Pelvis and Upper Segment of Ureters.**—Kroiss reviews the operative treatment of hydronephrosis from anomalies of the pelvis or ureter—a total of 102 operations which he describes in detail with 33 illustrations. His attention was attracted to the subject by a case of hydronephrosis of a solitary kidney, at Schloffer's Innsbruck clinic. He has also had occasion to perform a plastic operation in three other cases. The results of operative treatment in all this material have been excellent as a rule.

Berliner klinische Wochenschrift.

June 15, XLV, No. 24, pp. 1121-1164.

67 *What Should Be Taught Regarding Dangers of Infectious Diseases in First Aid Courses? (Was soll der Arzt über die Gefahren der Infektionskrankheiten in den Samariterkursen lehren?) F. Hueppe.
68 *Postoperative Occlusion of Duodenum. (Duodenaler Ileus nach Operationen.) L. Landau.
69 *Treatment of Ileus. W. Braun.
70 *Nature of Leukemia and Its Treatment. (Wesen des leukämischen Krankheitsprozesses und die therapeutische Beeinflussung desselben.) E. Grawitz.
71 Maneuvers for Artificial Respiration. (Manuelle künstliche Atmung Erwachsener.) G. Meyer and A. Loewy.
72 Precipitin Reaction in Syphilis and General Paralysis. (Fornet'sche "Präcipitat"-Reaktion bei Lues und Paralyse.) F. Plaut and W. Heuck.
73 Roentgen and Anatomic Study of Duodenum. (Sonderstellung der Pars horizontalis superior des Duodenums in röntgenologischer un [illegible].) G. [illegible]
74 Apparatus for [illegible] Heart. (Apparat zr [illegible] des Herzens.) M. Herz.
75 *The Use of Carbon Dioxid Snow in the Treatment of Nevi and Other Lesions of the Skin. (Kohlensäureschnee zur Behandlung von Hautkrankheiten.) W. A. Pusey.
76 *Examination of Fundus of the Eye by Transillumination of Orbit from Nasopharynx. (Neue Methode der Untersuchung des Augenhintergrundes und des Bulbusinnern.) C. Hertzell.
77 Present Status of Endonasal Surgery. Finder.

June 22, No. 25, pp. 1165-1212.

78 *Subcutaneous Continuous Drainage of Ventricles of Brain in Hydrocephalus. (Subcutane Dauerdrainage der Hirnventrikel beim Hydrocephalus.) F. Krause.
79 Glycosuria Experimentally Induced by Cauterization of Inner Surface of Intestine. (Glykosuria, experimentell hervorgerufen durch Verätzungen und Verschorfungen der Innenfläche des Darmes.) F. Eichler and H. Silbergleit.
80 *Congenital Muscular Rigidity and Dislocation of Hip Joint. (Little'sche Krankheit und Hüftluxation.) G. A. Wollenberg.
81 Torsion of Pedicle of Gall Bladder. (Stieldrehung der Gallenblase.) R. Mühsam.
82 *Secondary "Implanted" Abdominal Cancers. (Implantationscarcinome im Abdomen.) A. Tilp.
83 *Palpation of Normal Pylorus, etc., and Expiratory Gurgling. (Palpation des normalen Pylorus und der normalen grossen Kurvatur, und ein neues akustisches Phänomen, das expiratorische Gurren.) T. Hausmann.
84 *Action of Drugs on the Blood Serum. (Wirkung der Arzneimittel auf das Blutserum.) J. Schwarzmann.
85 *Cure of Chronic Bronchitis by Breathing Exercises. (Heilung der chronischen Bronchitis durch Atmungsgymnastik.) H. E. Knopf.
86 *Under Water Examination and Treatment in Gynecology and Obstetrics. (Subaquale Untersuchung und Behandlung in der Gynäkologie und Geburtshilfe.) O. Tuszkai.

67. **Preventive Medicine in First-Aid Courses.**—Hueppe presented this address at the First International Congress for First Aid, held at Frankfort recently. It is an appeal for the rudiments of the causes and dangers of infectious diseases to be included in the instructions in the system of "Samaritan" or "first-aid" lectures. He preaches constructive hygiene and the importance of educating the public in the idea that cleanliness is more than half of disinfection. "Indeed," he says, "disinfection is only a special and magnified form of cleanliness." He mentions that in the recent smallpox epidemic at Vienna, transmission of contagion by currents of air transporting the desiccated material was abundantly proved. Dried material from the pustule was formerly used in the Orient for variolization by insufflation of the dried substance into the nose. He thinks that enlarging the scope of the first-aid instruction will immensely enhance the usefulness of the present systematic training in first aid now in vogue in Germany and Austria.

68. **Treatment of Postoperative Ileus.**—Landau refers especially to the symptom-complex of sudden collapse and uncontrollable vomiting of almost pure bile, the vomiting never being feculent. In two recent cases the diagnosis of severe peritonitis seemed unmistakable, but turning the patients so that they lay face downward banished all the symptoms at one stroke. The trouble is an arteriomesenteric occlusion of the duodenum. The entire root of the mesentery, from which the heavy small intestine is hanging, has become strangulated. The kinking of the duodenum may be followed by dilatation, paralysis and ptosis of the stomach, and the heart action is sure to suffer. By assuming the prone position the trouble is mechanically corrected, and all disturbances subside. Ignorance of the benefits of the change of position to the ventral decubitus may have fatal results. the patient apparently succumbing to peritonitis and heart failure. He discusses the mechanism of this "duodenum ileus" and the cooperation of various factors, remarking that it may be observed after trauma or may even occur spontaneously. He thinks it wiser not to purge too energetically before a laparotomy and to allow nourishment early, to ward off the possibility of this postoperative duodenal ileus.

69. **Treatment of Ileus.**—Braun discusses the treatment of mechanical ileus, its indications and its results. His views are based on an experience of 69 cases. A delay of from 12 to 24 hours before intervention seals the fate of the patient in many cases of volvulus of the intestine, strangulation and

invagination. In one child, the invagination became almost irreducible in 6 hours; in another case gangrene developed in 24 hours after occlusion from constriction by Meckel's diverticulum. In occlusion from adhesions and stoppage, the interval before the catastrophe is generally much longer, but even here fatal collapse is liable to occur at any moment. The indications are therefore for rapid as well as judicious measures. In 6 cases the ileus was cured by injections; in 33 cases laparotomy was required, and in 30 palliative measures, puncture or enteroanastomosis. He regards puncture of the intestine through the intact abdominal walls as too dangerous, but advocates for appropriate cases a Witzel slanting fistula. This allows the contents of the intestine to be evacuated with a small incision in the intestine and no escape of the contents around the small flexible cannula he uses for the purpose.

70. **Leukemia and Its Treatment.**—Grawitz has had 41 cases of leukemia in his charge in the last three years, and this experience has shown that the different types of blood formation in this disease respond differently to treatment. In 26 cases with mixed-cell findings in the blood, 12 of the patients were in the earliest stages and 10 of these were clinically cured by Roentgen treatment, except that 3 had transient recurrence after a year or two of health. Two of this group were improved, but recurrence was soon observed and the ultimate outcome is unknown. In 14 cases in which the leukemic process was of several years' standing, one patient has been cured for two years, one died uninfluenced; the others showed more or less improvement but no permanently favorable results. Some have died since, and the fate of the others is unknown. In the 15 cases of lymphoid findings, only one patient can be regarded as cured. One has died since of an intercurrent affection, 2 were improved, but have since died of recurrence. The others showed slight or no improvement. By thus classifying the various types, the effect of Roentgen treatment can be better estimated. Complete restitution need not be expected in cases of deep-rooted defective blood production, but earlier diagnosis and better Roentgen technic will certainly improve the prospects in leukemic conditions.

75. This article was published in THE JOURNAL, Oct. 19, 1907, page 1354.

76. **Illumination of the Fundus of Eye from Nasopharynx.**—Hertzell introduces his ophthalmodiaphanoscope into the rear of the mouth. The light illuminates the orbit from the rear and shows a number of instructive features in the eyeball and behind it in the orbit which have hitherto escaped the usual ophthalmoscope.

78. **Subcutaneous Continuous Drainage of the Ventricles in Hydrocephalus.**—Krause has derived great benefit in a number of cases from the use of a light silver tube introduced into the ventricle. The outer end is slit up on each side and these tongues are turned back at right angles on the outer surface of the skull. This prevents the tube from slipping in too deep, while it is held in place by suturing the periosteum over the turned back ends of the tube, leaving the lumen open. The skin flap is then sutured in place. The tube thus conveys the fluid from the ventricle into the subcutaneous tissue, and it is left in place for months. He gives illustrated descriptions of several cases. In the one case of acute hydrocephalus the child died, but other factors were responsible for the fatality. In one case he combined the intubation with a flap valve with good results. In one case puncture allowed removal of a tumor in the cerebellum. The patient developed asphyxia several times during the operation, but relief was obtained each time by puncture, allowing escape of fluid under high pressure. In a case of tumor in the cerebellar-pontine angle, puncture of the subdural space materially reduced the dangerous symptoms of pressure on the brain. He commends this method of transient and permanent drainage, although his experience with it has not been conclusive. He is convinced that it is rational and may reduce the dangers of many operations on the brain.

80. **Congenital Muscular Rigidity and Dislocation of the Hip Joint.**—Wollenberg has examined 10 cases of Little's disease with the Roentgen rays. In 6 the hip joints were apparently normal, but in the others there was complete luxation in 3, bilateral in 1, and subluxation in the fourth case. He has collected from the literature 17 cases of Little's disease complicated with dislocation of the hip joint. Spasm of the muscles can be counteracted by myotomy of the abductor and flexor muscles of the hip joint, which in combination with tenotomies permits the use of the limb, and is the best prophylaxis of dislocation of the hip. Fixation of the leg in abduction in a plaster cast and splint reduces the possibility of the head of the femur slipping out of place. He advises correction of the dislocation believing that appropriate myotomies and tenotomies will aid in preventing recurrence. His cases confirm the possibility of a mechanical origin for dislocation of the hip joint, both of the congenital and acquired types.

82. **Implantation Cancer in the Abdomen.**—Tilp reports a case in which the genital organs showed extensive inoculation metastases besides numerous hematogenic and lymphogenic metastases from a primary carcinoma in the gall bladder. He knows of only two similar cases on record in which secondary cancer of the uterus was the result of implantation. A secondary neoplasm of the ovary, uterus or intestine, of this kind, might deceptively simulate a primary growth.

83. **Palpation of Normal Stomach and Gurgling During Expiration.**—Hausmann has perfected a method of deep palpation which reveals the viscera distinctly. He aims to push the organ back against the posterior abdominal wall and then determine its outlines. This is done during expiration after a very deep inspiration. The fingers are drawn downward, the procedure being facilitated by the rising of the stomach and colon during expiration. He has found that it is thus possible to palpate the normal pylorus in 18 per cent. of the persons examined. As the fingers pass over the fold of the greater curvature it feels like a step, over which the finger is drawn. As this is done the fingers separate the stomach into two parts, and any fluid in the stomach noisily regurgitates from one part into the other. He regards this "expiratory gurgling" as an ideal method for determining the position of the stomach, especially the level of the lower margin. As a rule, this margin is 5 or 6 cm. above the umbilicus, but he has found a great difference in the location of the umbilicus in different persons, ranging from 2 to 10 cm. above the line connecting the spines of the ilium. He cites some examples to show the important information that may be learned by his technic, especially for exclusion of the stomach as the site of a palpable tumor.

84. **Action of Drugs on Blood Serum.**—Schwarzmann states that the agglutinating properties of the blood serum increased to a marked extent in rabbits and dogs taking sodium iodid. He thinks that these experiences open a new line for research in regard to the action of drugs.

85. **Cure of Chronic Bronchitis and Asthma by Breathing Exercises.**—Knopf has been successful in curing chronic bronchitis by systematic courses of deep breathing. The exercises are done with the trunk bare, before a large mirror, inspiring through the nose and expiring through the mouth. Some persons breathe too superficially or they contract the abdominal muscles during inspiration. This latter bad habit can be one of the factors in bronchitis and asthma, and it must be combated and the patients taught to breath properly and not to cough except to expel the secretions. These exercises in deep breathing improve the general health to a remarkable extent and cure chronic constipation, and regulate the circulation until the patient says that he "feels like a new man." Knopf affirms that systematically practiced deeper breathing is not only the most certain expectorant, but also the only one that is entirely harmless. The only drawback is a slight dizziness sometimes noticed at first, evidently a sign of anemia of the brain, but it occurs only at first. No other system except that of locomotion is so much under the control of the will as the respiratory system, and he believes that respiratory therapy promises good results in many morbid conditions in heart and blood vessels, skin and nervous system, and in metabolic disturbances.

86. **Examination and Treatment Under Water in Gynecology and Obstetrics.**—Tuszkai for fourteen years has been making a practice of examining the abdomen with the patient reclining in a bathtub. The abdominal walls relax and allow palpation of otherwise inaccessible organs. He has thus

able to diagnose a pregnancy in the sixth week and to follow the growth of the skull of the fetus and thus to determine the best moment for intervention with contracted pelvis This extreme facility afforded by the water is more than can be explained by mere relaxation of the muscles or soothing of the nerves, physical factors must cooperate in the effect In one case an incarcerated tumor in the small pelvis, compressing the ureters, could be reduced under water, thus allowing the patient to be prepared for its proper removal Even general anesthesia does not permit such exact examination as the water bath, while the latter has the advantage that the tender spots can be accurately located He commends this "subaqual technic" as a great improvement which deserves wide application Not only water but other fluids increase the possibilities of palpation Interesting findings were obtained with rabbits and dogs placed in fluid tallow, plaster or wax

Correspondenz-Blatt fur Schweizer Aerzte, Basle.

June 1, XXXVIII No 11, pp 345 376

87 Transplantation of Muscles (Muskeltransplantationen) Brandenberg

June 15 No 12, pp 377 408

88 Successful Removal of Epicerebral Sarcoma in Region of Left Sensory Motor Convolutions E Tschudy and O Veraguth Commenced in No 11

Deutsche medizinische Wochenschrift, Berlin.

June 18, XXXIV, No 25, pp 1081 1128

89 Morbid Depression and Its Treatment (Depressionszustände) R Sommer
90 Existence of Rudimentary or Abortive Forms of Muscular Dystrophy and Their Treatment (Gibt es Formes frustes oder rudimentäre Formen der muskulären Dystrophie (Erb), und ist deren Heilung möglich?) A Marina
91 *Removal of Gravid Tube by Vaginal Route A Duhrssen
92 Rat Bite Disease (Aetiologie der Rattenbisskrankheit) M Ogata
93 Determination of Suprarenal Products in Blood and Urine (Nachweis von Nebennierenprodukten im Blut und Harn) N. Waterman and R J Boddaert

91 **Vaginal Extirpation of the Gravid Tube**—Duhrssen has removed the pregnant tube by the way of the vagina in 93 cases, with one fatality Another patient died from peritonitis following a fall after leaving the hospital This experience includes thirteen years, he found this technic possible in about two thirds of the cases He would not advise it unless the operator is especially skilful in vaginal technic and unless he can count on two skilled assistants Under these conditions, Duhrssen commends anterior colpoceliotomy in a tubal pregnancy of from one to three months in case the tube is still intact, or in case of hemorrhage if the condition of the patient allows proper preparation, or with tubal mole with or without a hematoma In case of older and larger hematocele he advises opening into it from the posterior vaginal vault or by a laparotomy

Deutsche Zeitschrift fur Chirurgie, Leipsic.

May, XCIII, No 3, pp 237 324

94 *Ivory or Rubber Substitute for the Lower Jaw After Exarticulation (Kieferersatz bei Exartikulation des Unterkiefers) F Konig
95 Cutaneous Tuberculin Reaction in Surgical Affections (Kutandiagnose der Tuberkulose bei chirurgischen Leiden) J Malis
96 *Successful Removal of Emboli from Pulmonary Artery (Fall von Embolie der Lungenarterie nach der Methode von Trendelenburg operiert) R Sievers
97 Appendicitis and Pregnancy F Weber
98 Concrements Forming on Threads After Gallstone Operations (Fadenrezidiv nach en
99 Apparatus for Compre era-
tion for Exstrophy bei
Operation der Blasenektopie) Wilms

94 **Prosthesis After Exarticulation of Lower Jaw.**—Konig has inserted a prosthetic appliance in four cases after exarticulation of the lower jaw In his latest case the patient was a woman of 68, and a piece of ivory was inserted to take the place of part of the jaw removed on account of a tumor of the ascending branch of the jaw in a toothless mouth The results were extremely satisfactory The ivory becomes eroded enough to allow a little ingrowth of bone tissue which anchors it firmly.

96 **Extraction of Embolus from Pulmonary Artery.**—Trendelenburg has proposed during the last few months active intervention in cases of otherwise fatal pulmonary embolism He has shown that it is feasible on animals, but in the one clinical case in which he applied it the patient succumbed in the course of the operation Sievers has been more successful, and here relates the particulars of a case in which he was able to remove the emboli and terminate the operation, allowing a survival of the previously pulseless patient for fifteen hours The symptoms indicated nearly total obstruction of both main branches of the pulmonary artery. The emboli removed were 15 and 21 cm long by 7 to 12 mm in diameter.

Medizinische Klinik, Berlin.

June 14, IV, No 24, pp 895 932

100 *What Operations Can Be Done Without Requiring After Care in Hospital? (Das Gebiet der ambulatorischen Operationen) J Sternberg
101 *Venesection and Circulatory Disturbances (Aderlass und
102 * orcin (Resorzin Nothen
103 Hans
104 ideprolaps infolge
105
106 Technic F Dessauer
107 Kant's Relations with Medicine and Pharmacy. (Immanuel Kant als Arzt und Apotheker) A Kohut
108 Quack Remedies Made in Thuringia. (Konigseer Olitaten) C Reissig Commenced in No 22

100 **Operations on Out-Patients**—Sternberg thinks that the number of operations after which the patient can be allowed to go home is much larger than generally realized As children can easily be carried, almost all operations on them permit this, and all operations that do not interfere with the patient's walking He has even performed thus amputation of the breast, with removal of the glands in the axilla, thyroidectomy and operations on the bones for caries, or on the soft parts for fungus, allowing the patient to go home at once He begins to prepare the field for the operation several days before by applying a large dressing wet with a 1 per cent solution of aluminum acetate and tartrate with a little glacial acetic acid, the whole being covered with oiled silk This does not act so vigorously as aluminum acetate alone This dressing is renewed daily, and the day before the operation the field is thoroughly cleansed with benzine, hot water and soap, followed by a large compress with glycerin and tincture of soap, for the last twenty four hours The operation is done during the first whiffs of ether, the so called *Aetherrausch* Special attention must be paid to ligation of all the visible vessels, both arteries and veins After the operation he applies a dressing to the entire half of the head in an operation on the face with a few turns of starch paste dressing outside, and after operations elsewhere in proportion These large extensive dressings, made stiff outside, not only protect the wound against infection from neglect or curiosity, but reduce the pain by limiting the movements of the parts

101 **Venesection in Heart Disease.**—Hahn relates a number of cases to show the excellent effects of venesection when the circulation in the lungs is interfered with The circulation in the lungs provides a regulating reservoir for the blood, and the effect of venesection is felt here first and most intensely Especially in arteriosclerosis, permanent benefit is derived from venesection, possibly from reduction of the viscosity of the blood Experiments on himself showed that venesection induced a feeling of agreeable lassitude, an outbreak of sweat, and somnolency Among the experiences related was the arrest of incipient edema of the lungs in severe heart disease in a hard drinker and the relief of distress in a patient with emphysema of the lungs and secondary weakness of the right ventricle

102 **Intoxication from Resorcin.**—Nothen has observed two cases in the last year in which external application of a resorcin salve caused severe intoxication One patient was a healthy young man and the symptoms simulated threatening uremic coma at first He had used in one day about 30 gm of the resorcin for seborrheic eczema on back and limbs The salve was removed with ether, heat was applied to the extremities, camphor injected and venesection done, and the patient regained consciousness four hours after the inunction and recovered The other patient was an infant with pemphigus, 11 days old He was found dead in less than twenty hours after the pemphigus patches on head, breast and arms had been dressed with a 3 per cent resorcin vaselin salve

Monatsschrift fur Geburtshulfe und Gynakologie, Berlin.

June, XXVII, No 6, pp 681 789

109 *Dysmenorrhea as Result of Traction on Peritoneum (Dysmenorrhoe durch Bauchfellzerrung) H Sellheim
110 Prolapse of Normally Located Placenta (Vorfall der Nachgeburt bei normalem Sitz) R Stein
111 Embryonal Ovarian Tumors (Embryoiden Geschwülsten des Eierstocks) A Redlich
112 Primary Abdominal Pregnancy T Lovrich
113 Incipient Chorioepithelioma with Metastasis in Vagina M Brenner Commenced in No 5

109 **Dysmenorrhea the Result of Traction on Peritoneum** —Sellheim ascribes the pain to the changes in the size of the uterus during menstruation, pulling on the parietal peritoneum This may occur by undue shortness of the ligaments or by adhesions The loosening of the ligaments and adhesions during the course of a pregnancy explains the cure of dysmenorrhea in many cases after childbirth The dysmenorrhea is sometimes cured also by courses of treatment which stretch or loosen the ligaments and adhesions or relieve constipation In all cases the combination of the dysmenorrhea with sensitive, short, thick and tightly stretched ligaments, should always suggest the necessity for reducing the traction on the peritoneum by measures to stretch or alter the circulation in the ligaments An effectual measure is an electromagnet applied to the abdomen which rhythmically attracts and releases iron rings, balls, etc, *in the vagina He thinks this* is better than digital massage of the genitals in such women as they are liable to be psychically somewhat unstably balanced In one case he severed the abnormally taut ligaments, but after a transient improvement the result was bad, the disturbances recurred, severer than before Either the patient had an unsuspected tendency to hysteria or neurasthenia or the severed ligaments must have soon grown together again

Virchows Archiv, Berlin.

June, CXCII, No 3, pp 381 561

114 *Experimental Tuberculosis of Kidney with Ligated Ureter (Tuberkulose und Blutströmung) J. Meinertz Commenced in No 3
115 Implantation of Embryonal Tissue (Implantation embryonaler Gewebe) W Bogoljuboff and P Owschinnikow
116 Suprarenals Secretion Granules—Edema—Weight (Nebennieren) O Scheel
117 Chemical Study of Melanoma C Neuberg
118 Origin of Hematoma on Heart Valves in New born Infants (Entstehung der Herzklappenhämatome bei Neugeborenen) H Meinhardt
119 Extensive Production of Hyalin in the Arteries (Ausgedehnte Hyalinbildung in Arterien) E Ritter
120 Embryologic Study of Rare Malformation (Eine seltene menschliche Missbildung) E Falk

114 **Tuberculosis and the Blood Current** —Meinertz describes research on experimental tuberculosis of the kidney as it developed with or without ligation of the ureter The modification in the circulation through the kidney by ligation of the ureter caused certain distinct modifications in the development of the tuberculosis in these organs The results harmonized with those observed in diffuse miliary tuberculosis, confirming the predilection of the process for organs with a more sluggish circulation

Wiener klinische Wochenschrift.

June 18, XXI, No 25, pp 893 930

121 *Protection of Cattle Against Tuberculosis (Tuberkuloseschutzimpfung beim Rinde) J F Heymans
122 Determination of Biliary Pigment and Its Clinical Importance (Nachweis von Gallenfarbstoff und dessen klinische Bedeutung) F Obermayer and H Popper
123 Pathogenesis of Heberden s Nodules (Heberdensche Knoten) F Pineles
124 Changes in Blood in Myxedema (Veränderung des Blutbildes bei Myxödema) I Bence and K Engel
125 Composition of Blood in Relapsing Fever (Blutzusammensetzung bei der Febris recurrens) G Kieseritsky
126 “Dust in Spermatic Fluid (Spermakonien) E Wiener
127 The Seashore in Tuberculosis of Upper Air Passages (Einfluss der deutschen Meere auf die Tuberkulose der oberen Luftwege) A Hennig
128 Behavior of Human Skin in response to Various Bacterial Poisons (Ueber das Verhalten der menschlichen Haut gegen verschiedene bakterielle Giftstoffe) C v Pirquet

121 **Sac Method of Immunization of Cattle Against Tuberculosis** —Heymans describes a method which has been applied to 4,000 cattle since 1905, and which he believes enhances the resisting powers of the animal He calls it the 'sac method" A sac made from part of a reed is filled with 1 mg of living tubercle bacilli, diluted with powder, the mouth of the sac is tied and collodionized, and the sac is then introduced under the skin of the animal Tests have shown that a sac like this filled with tuberculin and placed in a vessel of physiologic salt solution allows diffusion of the tuberculin through the intact membrane of the sac A tuberculous cow soon shows the typical reaction when a sac containing 0 5 c c of raw tuberculin is inserted under the skin When the sac contains live bacilli they thrive so long as they obtain the necessary nutrient substances by diffusion Tests on guinea-pigs have shown that the bacilli remain alive and secrete their specific substances in the organism of the inoculated animal so long as the substances which diffuse into the sac are not completely bactericidal, that is, as long as the animal's organism has not acquired adequate immunity The sac heals in the tissues, forming a nodule resembling a tubercle After six or eight months the nodule atrophies, the bacilli die, and if the contents of the tubercle are injected into a guinea pig after 12 or 18 months no tuberculous infection follows Experience shows that an animal bearing one of these sacs seems to be protected against experimental and spontaneous tuberculous infection to an extent hitherto unattained He discusses the mechanism and cites his six previous announcements on the subject since 1904

Zeitschrift fur Geburtshulfe und Gynakologie, Stuttgart

LXII, No 1, pp 1 176

129 Incontinence of Urine from Female Hypospadias and Its Treatment (Incontinentia urinæ bei Spaltbildung der weiblichen Urethra) R Teller
130 Threatening Internal Hemorrhage from an Ovarian Perithelioma Laparotomy Recovery L Goth
131 Melanotic Cancers of Vulva (Bosartige pigmentierte Geschwulste der Vulva) H Hinselmann
132 Endometritis and Importance of Plasma Cells in Inflammation E Weishaupt
133 *Treatment of Eclampsia K Mohlmann
134 Lower Segment of Uterus H F Barbour
135 Vater Pacinian Corpuscles in Fallopian Tube E Ries
136 Study of Isolated Surviving Dog Kidneys Flushed with Placenta Juice (Beobachtungen an mit Placentasaft durchströmten Hundenieren) P Mathes
137 *Attempt to Determine the Eclampsia Toxin by Experiment (Versuch das Eklampsiegift auf experimentellem Wege nachzuweisen) V Albeck and J E Lohse

133 **Treatment of Eclampsia** —Mohlmann reviews the experiences at Olshausen's clinic at Berlin with 104 cases of eclampsia, 1906 7 The mortality was 15 4 per cent for the mothers and for the children 24 04 per cent The convulsions did not recur after delivery in 64 4 per cent In 21 cases expectant treatment was followed by spontaneous recovery without the necessity for hastening delivery The practitioner should weigh well the conditions in each case to decide whether the eclampsia itself or the supposedly indicated immediate artificial delivery is fraught with most danger for the patient

137. **Eclampsia Toxin in Amniotic Fluid** —Albeck and Lohse relate experiments with animals injected with amniotic fluid from eclamptic and non eclamptic puerperæ Changes were found in the liver in the guinea pigs injected with the eclamptic fluid resembling in every respect those observed in the livers of women succumbing to eclampsia Nothing of the kind was observed in the organs of guinea pigs injected with amniotic fluid from non eclamptic women

Zentralblatt fur Chirurgie, Leipsic.

June 20, XXXV, No 25, pp 753 776

138 *Intestinal Anastomosis of Mucosa with Rubber Sutures (Darmanastomose mittels Gumminaht der Schleimhaute) F Kuhn
139 Temporary Turning Back of Both Jaws (Temporare Aufklappung beider Oberkiefer) M Borchardt.

June 27, No 26, pp 777 808

140 *Antiferment Treatment of Suppurative Processes Without Incision (Antifermentbehandlung eitriger Prozesse ohne Inzision) A Pelser
141 Appliances for Positive Lung Inflation by Peroral Intubation (Lungenüberdruck mittels peroraler Intubation und kontinuierlicher Luftpuffung in dem Intubationsrohr) F Kuhn
142 Resection of Common Bile Duct A de Graeuwe

138 **Intestinal Anastomosis with Rubber Sutures** —Kuhn gives an illustrated description of a method of exposing and suturing the mucous lining of the stumps of the intestine with rubber using ordinary rubber bands for the suture material By this means the lips of the stumps are coaptated with great pressure from the elastic rubber, while the rubber cuts through in time Among the advantages claimed for the method are the possibility of absolute asepsis no escape of the contents of the intestine and the easy, rapid technic.

140. Antiferment Treatment of Suppurating Processes Without Incision.—Peiser relates further experiences with his method of treating suppurating processes by supplying from without an antiferment to counteract the ferment naturally in the suppurating focus. It was described in THE JOURNAL, June 6, 1908, page 1931. He has found that it is possible to accomplish the desired effect by aspiration of the pus with a stout syringe and immediate injection of the antiferment serum. It is thus possible to avoid a disfiguring incision. He is now giving this method of treatment an extensive trial in cancer cases, generally using the effusion from the pleura or abdominal cavity, filtered and tested for its antiferment properties by E. Müller's plate method.

Zentralblatt für Gynäkologie, Leipsic.

June 20, XXXII, No. 25, pp. 817-840.

143 Extraperitoneal Cesarean Section. (Extraperitonealer Kaiserschnitt.) A. Czyzewicz.
144 Hernia of Gravid Uterus After Conservative Cesarean Section. (Der kreissende Uterus als Bruchinhalt bei Bauchbruch nach konservativem Kaiserschnitt. Kaiserschnitt nach Porro.) W. Schmidt.
145 *Pathogenesis of Eclampsia. A. Dienst.

June 27, No. 26, pp. 841-872.

146 Suggestion for Facilitating Removal of Laminaria Tents from Cervical Canal. (Vorschlag zur Erleichterung der Entfernung von Quellstiften aus dem Cervicalkanale.) L. Knapp.
147 Two Cases of Decapsulation of Kidneys in Eclampsia. (Nierendekapsulation bei Eklampsie.) F. Kleinertz.
148 Instrumental Abortion. (Anwendung der Abortzange.) F Thomä.

145. Pathogenesis of Eclampsia.—Dienst explains his grounds for the assumption that the symptoms of eclampsia are the result of an overaccumulation of fibrin in the blood. The filaments of fibrin cause disturbances in the circulation, thrombosis and consecutive necrosis of the parenchyma, especially of the liver. The resulting insufficiency of the liver leads to imperfect neutralization of the toxins generated in the metabolism, thus inaugurating a vicious circle. Retention of salts is a further indispensable factor in the development of eclampsia, as the excess of fibrin alone is not sufficient to induce it. Pregnancy nephritis causes retention of salt and thus proves an indirect factor. The leucocyte count suggests that dropsy without albuminuria, "pregnancy kidney," and eclampsia are all links in the same chain.

Gazzetta degli Ospedali e delle Cliniche, Milan.

June 14, XXIX, No. 71, pp. 745-760.

149 *Are Consumptive Camps and Hospitals a Menace to the Neighborhood? A. Randi.
150 *Connection Between the Thymus and Asthma. (Degenerazione lacunare del timo ed asma di Richa-Kopp.) F. Pedrazzini.

149. Are Consumptive Hospitals and Camps a Menace to the Vicinity?—Randi declares that hundreds of consumptives under proper discipline are not so dangerous for the community as a single tuberculous person not taking due precautions to render his expectoration harmless.

150. The Thymus and Asthma.—Pedrazzini reports three cases of sudden death in young children, the so-called "thymus deaths." He reviews the literature and shows that an unusually large thymus or one with merely a part enlarged or abnormally hard may press on the organs or nerves in such a way that any accidental congestion, abnormal pushing up of the diaphragm from distention of the abdomen or irritation of the vagus, as from difficult gastric digestion, helminthiasis or intestinal disturbances, may upset the balance and induce severe suffocation or sudden death. The thymus need not be very large for this to occur. A spasmodic cough may also be caused by compression from the enlarged thymus or from an indurated patch in the thymus, as he shows by several examples. The asthma described by Richa and Kopp may also be the work of the enlarged thymus. Removal of the thymus has been done successfully, but Pedrazzini prefers chondrotomy of the first costal cartilages, close to the sternum, as affording relief from compression while the simplicity of the operation commends this technic. It usually has to be done as an emergency intervention.

Policlinico, Rome.

June, XV, Medical Section, No. 6, pp. 241-288.

151 Viscosity of Putrefying Blood. Ricerche viscosimetriche sul sangue in putrefazione.) C. Ferrai.
152 *Toxicity of Urine and Stools and Intestinal Putrefaction in Infants Fed on Foods Rich in Albumin. (Tossicita urinaria e fecale e putrefazione intestinale in bambini nutriti con alimenti ricchi di albumina.) A. Longo.
153 Deviation of Complement in Syphilitic Infection and in Parasyphilitic Affections. F. Costantini. Commenced in No. 5.
154 Blood Formula in Malta Fever. (Formula ematologica nella febbre di Malta.) A. Tomaselli.

152. Toxicity of the Urine and Stools in Children on an Albuminous Diet.—The metabolic findings in the cases reported show that the toxicity was least on a vegetable diet, increased slightly on milk, still more with meat, but was highest with eggs. Intestinal putrefaction was least pronounced with milk, more with vegetables, still more with meat, and highest of all with eggs.

Nordiskt Medicinskt Arkiv, Stockholm.

April, XL, Surgical Section, Nos. 3-4.

155 *Value of "Combined Method" in Treatment of Rectal Carcinoma. (Wert der "kombinierten Methode" bei der Behandlung des Rektumkarzinoms.) J. Berg.
156 Surgical and Anatomic Study of Exophthalmic Goiter. (Morbus Basedowii.) J. Landström.
157 Roentgen Diagnosis and Treatment of Bladder Stones. (Bedeutung der Röntgenographie für die Diagnose und Behandlung der Blasensteine.) J. Berg.

155. Treatment of Cancer of Rectum.—Berg has performed 156 operations for cancer of the rectum, on 93 men and 57 women, since 1890. The *radical* operation was done in 108 cases, with a mortality of 12.9 per cent. The comparative harmlessness of extirpation from below is demonstrated anew by his experience, also the great benefit liable to be derived from colostomy and the lack of annoyance from the new anus. The patients soon learn to manage it excellently. One of his patients with inoperable rectal cancer lived in good condition for nearly five years with his new artificial anus. Autopsy showed the entire pelvis filled with a single cancer mass. The "combined method" allows extirpation of cancers which otherwise would be deemed inoperable. He declares that it deserves wider application than has been the case hitherto, not merely as an operation of last resort, but early for high cancers of the rectum, for which it presents a number of advantages. Patients should always be warned of the possibly eventual necessity for colostomy in all operations of the kind. As this procedure has proved so satisfactory, it is not wise to enlarge the field of the radical operation too far.

Books Received

LEHRBUCH KLINISCHER UNTERSUCHUNGSMETHODEN FÜR STUDIERENDE UND AERZTE. By Theodor Brugsch, Assistent der II, mediz. Universitäts-Klinik, in Berlin, and Alfred Schittenhelm, a. o. Professor der inneren Medizin, in Erlangen. Part 1. 320 pages, 351 illustrations. Parts 2 and 3, 620 pages, 350 illustrations. Paper. Berlin: Urban & Schwarzenberg, 1908.

SURGERY. By John Allen Wyeth, M.D., LL.D. (University of Alabama), President of the New York Academy of Medicine. Cloth. Pp. 816, with illustrations. Price, $7.00. New York: Marion-Sims Wyeth & Co., 1908.

THE PATHOLOGY OF THE EYE. By J. Herbert Parsons, B.S., D.Sc. (Lond.), F.R.C.S. (Eng.), Assistant Surgeon, Royal London (Moorfields) Ophthalmic Hospital. Vol. IV. General Pathology. Part II. Cloth. Illustrated. Price, $3.50. New York: G. P. Putnam's Sons, 1908.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY: Hygienic Laboratory. Bulletin No. 37. By Ch. Wardell Stiles, and Albert Hassall. Paper. Pp. 401. Washington: Government Printing Office, 1908.

CHRISTMAS VS. FOURTH OF JULY. By Asenath Carver Coolidge, Author of "The Independence Day Horror at Killsbury," etc. Paper. Pp. 39. Price, 25c. Watertown, N. Y.: Hungerford-Holbrook Co.

BORDERLAND STUDIES. By George M. Gould, M.D., Formerly Editor of the Medical News. Cloth. Pp. 311, with illustrations. Price, $1.25. Philadelphia: P. Blakiston's Son & Co., 1908.

GOLDEN RULES OF DIETETICS. By A. L. Benedict, A.M., M.D., Buffalo. Author of Practical Dietetics. Cloth. Pp. 407. Price, $3.00. St. Louis: C. V. Mosby, 1908.

QUAIN'S ANATOMY. Vol. I. Embryology. By T. H. Bryce. Cloth. Pp. 275, with illustrations. Eleventh Edition. Price, $3,00. New York: Longmans, Green, & Co., 1908.

[illegible] By Ludwig Pincus, Frauenarzt in Danzig. [illegible] illustrations. Price, $1.00. Wiesbaden: [illegible] Bergmann, 1905.

TRANSACTIONS of the American Association of Genito-Urinary Surgeons. Vol. II. Paper. Pp. 413, with illustrations. New York: The Grafton Press.

ST. FRANCIS HOSPITAL, Hartford, Conn. For the Year 1907. Paper. Pp. 63. Hartford: Transcript Job Print, 1908.

ANNUAL STATEMENT of the Directors of the Poor of Blair Co., Pa. For the Year 1907. Paper. Pp. 23.

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Address

THE BORDERLINE OF LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON LARYNGOLOGY AND OTOLOGY, AT THE FIFTY-NINTH ANNUAL SESSION, AMERICAN MEDICAL ASSOCIATION, 1908.

HANAU W. LOEB, A.M., M.D.
ST. LOUIS.

In acknowledging my obligation to the Section which has honored me, I can not do better than to bring before you certain phases of the development of our specialty. While a tremendous advance has been made in every portion of our work, the most interesting of all lies on our borderline where we meet the work of others whose investigations reach or overlap our own.

The process of limitation which has been going on in every field of human activity has had two great functions. It has permitted a far more specialized and thorough study, and it has narrowed the field by concentrating the view.

That every division of science and art has thus been subjected to a rigid scrutiny and uncompromising investigation must be admitted, and that the total effect of this research has been productive of far-reaching results can be determined by even a casual observation. But what a sacrifice there has been to the understanding of the broader side of knowledge! We have rushed pell-mell to develop our own little sphere of activity. We have dissected it and probed it and turned it inside out; but we have forgotten that outside of it there is a world, a vast world, filled with others whose aims, like ours, are directed toward the advancement of a little corner of knowledge without the slightest reference to, or perhaps interest in, the greater domain of science and human activity.

This development of specialism which received its impetus with the dawn of nineteenth-century research is evolving its own remedy. For, ever and anon, do we see evidences of a growing disposition to look over the border into the adjoining fields and to associate the great truths of one department of knowledge with those of another or of many others with a view of correlating them for the greater truth. Not only this, but the confines of the various fields are being encroached on again and again, boundaries are modified, and the whole aspect is altered even in a few years. Compared to these the boundary changes which are effected among nations through the instrumentality of wars, revolutions and the greed of man are but insignificant and unimportant.

In no department of medicine has this been more manifest than in laryngology and otology. These certainly did not begin as surgical specialties, nor were they indeed associated together. The time is within the memory almost of some of our youngest colleagues when the professor of internal medicine was the lecturer on laryngology. Even now the enforced association of the chest with the larynx in the last few decades has kept many a man so highly concerned in physical diagnosis that he has had no opportunity to enter the more logical field of associated surgical conditions. The combination of the eye with the ear, though illogical, remains still a factor largely in view of their accidental association years ago, and because the smaller size of many communities still forces such association as a means of livelihood. However much we may desire this association to continue, these specialties are surely drifting apart and soon will be free of one another.

By a process of natural evolution the ear, nose and throat have become affiliated. Thus laryngology, which was first a slight bud on the parent medical stalk, has joined with another — rhinology — and the two have grown steadily together. Long afterward, they have stolen bodily another offshoot from the parent body—otology—already well developed, and the three together have waxed in importance day by day. With the unfolding of time, who shall say what this association will bring forth, who shall say how it will change and what it will accumulate and what will be abstracted from it?

But the adjacent fields invite us, not only because we are to include some of theirs within our own possessions, but also because their very proximity renders them factors in our development. They modify our work, for as their investigators dig deep into the substratum they find veins of truth which lead them to claim a part of our own domain, or which bring them in closer touch with us.

As we look over the borderline and study our neighbor's work as it pertains to ours, we see the landmarks of the ever-changing limits of days gone by.

When the investigations and work of Garcia, Czermak, Turck and other pioneers opened up the larynx to study during life a tremendous advance was made, for the larynx came into view, though, of course, through the medium of a mirror. By this agency we have been able to cast our influence on the other fields of medical activity and to appropriate an ever-increasing portion for ourselves.

What was first simply a diagnostic aid became a means of surgical intervention, and a whole array of patients whose condition it was not possible previously to differentiate now became amenable to local treatment.

The surgical instinct was in this wise cultivated and laryngologists with greatly improved surgical technic and abundant facilities for local observation began to wander into more distinctly surgical fields. Removal of laryngeal growths, *per viam naturalem,* was soon followed by thyrotomy and more extensive operations, until now even the more radical operations like laryngectomy are gradually being brought into the laryngologist's domain. The result of all this has been so to change the character of our work that we now have a specialty essentially surgical in place of the quasi-medical one which it was at its inception. How much more greatly has this been established since the pathfinding work of Kirstein and Killian, and many of our own colleagues in America like Jackson, who have changed the mirror view of the larynx into a direct view, who have set the image right instead of reversed, and who have brought it within six or eight inches of our examining eye instead of twenty-four. Already the possibilities of this method have become manifest, and foreign bodies in the trachea, bronchi and esophagus have come more closely into our range of usefulness, while tumors, strictures and other conditions involving these structures are made susceptible of diagnosis and treatment. Jackson has shown how practically the whole gastric mucosa may be viewed *in situ,* and very properly maintains, at least for the present, that the work should be done by the laryngologist who is accustomed to identifying conditions in a small field.

Close to the borderline of the larynx lie the lungs, which very naturally are greatly concerned in whatever affects their port of entry. A great variety of conditions call for a correlated study of the lungs and the larynx as well as of the other organs of the upper respiratory tract.

Investigations directed toward the better understanding of tuberculosis show, in many ways, how much there is still to be learned of the relation which the laryngeal affection bears to the disease in the lungs.

The nervous system has been invaded pacifically by the laryngologist, as evidenced by a study of chorea, tabes and other nervous affections, not to speak of the value of laryngoscopic observations in pressure on the recurrent and other conditions involving the nerve supply of the laryngeal muscles. The examination of the larynx is of special value in tabes, particularly since laryngeal paralysis is one of the earliest symptoms, appearing often before others that are more classical. Bearing on this subject, Freudenthal, in his paper to be read at this meeting, takes issue with Harland and shows from examination of numerous cases that the conclusions of Semon, Kraus, Burger and others, as to the frequency of laryngeal paralysis in tabes, are justified.

Laryngeal manifestations of hysteria are too well known to require more than passing comment to show how we are developing along the borderline of neurology.

No more potent influence on the art of singing has been exerted of late years than that of laryngology. In fact, this is one of the most promising fields along our borderline. The keen interest manifested in the subject by our colleagues all over the world has been effective in cultivating a study of the vocal art along proper lines. Defects of speech, however, have not received the attention which they merit, except at the hands of a very few. When we consider how much good there is to be done in this regard and how clearly it falls within our province, it is most surprising that more interest is not taken in this subject. It is to be hoped that the persistent efforts of Gutzmann, Makuen and others will be rewarded by the more general acceptance of this line of activity as a part of our work.

The pharynx has also added to our field of work by encroachments along its borders. The investigations with respect to the function of the tonsils have opened up a great storehouse of study. The throat is thus seen to be a factor in some of the most serious affections, among the most important of which are rheumatism, tuberculosis, meningitis and endocarditis. Although final evidence is wanting, it is within the range of positive probability that many of the more general conditions have their origin in a bacterial invasion through the tonsil. The investigations of Goodale go a great distance toward the confirmation of this assumption. Quite recently Wood was able, by rubbing a virulent culture of bovine tubercle bacilli on the surface of the tonsils of hogs, to inoculate the tonsils; and he succeeded in finding the tubercle bacillus in the regional lymph glands of the neck within five days after inoculation.

The influence of adenoids on the general system and on neighboring structures is so well known that comment is almost unnecessary. It would be very strange indeed, if the warm moist character of the adenoid mass did not provide a highly satisfactory medium for bacterial growth, whereas the more physical changes result from the decided nasal obstruction which it occasions. The far-reaching effects of adenoids have added school hygiene to our borderline branches; indeed, examination for adenoids constitutes the most important part of the medical inspection of schools. In addition to these we must cite more remote conditions, such as psychoses, dementia præcox, aprosexia, etc., all of which may result from the presence of adenoids.

Cleft palate has come within our range in consequence of the fact that our province has become extended on the surgical side. It is certainly just as logical for the laryngologist to close up the floor of the nose or to obliterate a congenital cleft in the soft palate as it is for him to remove an obstruction of the nose. In the early history of laryngology operations of such magnitude were not performed by the laryngologist, but now the situation has changed in that the radical mastoid and laryngectomy call for as much understanding of surgical technic as any other surgical undertaking. The methods used for relief of serious tonsillar hemorrhage, such as suturing the two pillars and ligation of the carotid, indicate how our surgical work is assuming higher technic.

Though a late addition to our specialty, the study of the nose has given evidence of tremendous activity. Until the advent of cocain it was but a small factor. The anesthetic properties of cocain made it possible to develop the surgery of the nose along its most progressive lines. Beginning with the cauterization of the nasal mucosa, we have run the gamut of operative procedures until now we have a most highly developed surgical character of work. Witness the saw operations for ridges and spurs, the punch, cutting and crushing operations for deflections with the various retention devices as pins, solid splints, hollow splints of Mayer, block tin splints of Braden Kyle, compressed cotton of Simpson, all largely replaced by the submucous operation, which has been developed among others by Boenninghaus, Krieg, Killian, Hajek, Freer and Ballenger.

The other wall of the nose has likewise been subjected to this process of surgical evolution, as shown in the greatly improved technic now used. As suggestive of future development in this particular we need only mention the highly ingenious method devised by Yankauer for suturing the nasal mucosa, and the submucous operation on the outer wall of the nose, to be presented by Canfield at this meeting

All these are strictly within the limits of our work, but they are to be considered as evidence of study along our borderline in the field of surgery.

Sinus surgery, however, shows our encroachment on the field of surgery far more specifically, for we have appropriated the whole subject.

Radical operations on the accessory sinuses are far more frequently undertaken by the rhinologist now than the simple ones twenty-five years ago. It was culpable for him to venture into the antrum at that time and almost a crime for him to undertake a frontal sinus operation. But with our growing methods of diagnosis, impossible of performance without rhinologic technic and understanding, these operations are a part of our task and we do not shirk our responsibility.

The sinuses bring us back again to our old associate, ophthalmology, but not in the same way and for the same reasons as in the past. The more special relation which the eye bears to the sinus, not in any sense understood when they were associated, called for this study. As a more detailed investigation into this subject is being made it is remarkable how much influence we find the accessory sinuses to have on the eye. Numerous reports of blindness and other conditions have been made where the diseases of the sinus were the cause and where their cure was followed by relief from the ocular trouble. Among the many conditions coming within this range may be mentioned orbital abscess, orbital phlegmon and optic neuritis. A growing field for study and observation is thus being spread out before us and we find ourselves peacefully appropriating territory from our neighbor, who was formerly our medical sovereign.

The borderline between dentistry and laryngology has been invaded many times during the past twenty-five years. Beginning with the study of the antrum, it has extended so as to include many of the conditions with which the two branches of medicine are concerned. The maxillary sinus, which at first was considered as belonging exclusively to the domain of the dentist, or perhaps of the surgeon for the more radical work, has now been fully acknowledged as a part of our task. When alveolar puncture was practically the only remedy available besides the radical operation the dentist had full sway, but as the antrum has come to be recognized as an extension of the nose its therapeutics has been moulded accordingly. The intranasal operations are greatly to be preferred where anything short of a radical operation is possible. In addition, the more extensive operations fall naturally to the lot of the rhinologist, who from the nature of things must have these cases under investigation during the period of preliminary observation and treatment.

In malocclusion of the teeth those who practice the specialty of orthodontia have long ago recognized the almost universal etiologic influence of adenoids. Before undertaking the mechanical treatment necessary to correct the malocclusion and the irregularities in the growth of the teeth which so greatly mar the facial beauty, the almost invariable rule is to have the adenoid growths removed.

Otology has been long regarded as a specialty, first in association with the eye, then as an independent one, and later as an associate of laryngology. All the earlier writers on general diseases discussed ear affections, but little was known beyond what affected the external ear.

The first dispensary for ear diseases was founded by John Cunningham Saunders in 1805 under the name of the London Dispensary for Curing Diseases of the Eye and Ear, but later the treatment of the ear was discontinued. However, John Harrison Curtis, a student of Saunders, established an institution for the treatment of ear diseases which was more permanent. One was established in New York in 1820 for the treatment of both eye and ear diseases.

In those early times the field of otology was necessarily limited and little was understood either of the pathology or treatment of middle-ear diseases. This was mainly due to the inefficiency of examination, which was made by allowing the sunlight to fall into the external auditory canal. With the advent of reflected light the surgical side of otology underwent rapid development. However, it has only been during the past twenty-five years that anything like a proper understanding of the surgical aspects has been possible. During that time our whole knowledge of mastoid diseases and their therapeutics has been developed.

It is through the agency of the mastoid that we again step over an important borderline and invade the field of cranial surgery, to such an extent that every otologist who does even an ordinary amount of aural surgery comes sooner or later into the domain of cranial surgery. And this tendency is growing—in fact, it is becoming recognized. As indicative of this, I need only call your attention to the joint session of our own section with that of surgery for the purpose of discussing cranial surgery, the first time, I believe, that such an association has been made. This correlation of work and study is bound to be productive of good results, for there is yet much to learn of intracranial surgery as it applies to otology, rhinology and other specialties as well.

The recent work of Barany in the differentiation of labyrinthine conditions adds not a little to the influence which we have on our neighbors over the border. The diagnosis of cerebellar tumors and other processes going on in that region is thereby greatly advanced.

Otologists have long been concerned in the deaf and dumb and in the methods by which their lot is made more bearable. In recent years, however, there has been far less interest manifested, perhaps on account of the overwhelming development of aural surgery. There is still much to be done in this beneficent field of work and it can be effected only by a cooperation of otologists with teachers of the deaf and with those whose philanthropic tendencies are directed toward this great work.

I have still to mention certain surgical procedures which several years ago were considered entirely outside of our range but which are being undertaken by an ever-increasing number of laryngologists and otologists. Chief among them are plastic operations on the external nose and ear, ligation of the jugular and carotid, removal of cervical glands, goiter and hare-lip operations and neuroplasties like facio-hypoglossal anastomosis which Joseph Beck has just brought into notice by his report of six cases.

Thus we see how our work has been broadened by the study of adjoining fields, how our neighbors have yielded to us possession of some of their choicest lands and how we have assimilated them so that our portion is now a well-outlined part of medicine, full of possibilities and encouragement for study. It is not hampered by narrow prejudice or intolerance to progress. On the contrary, we have invited the most serious investigation and we have appropriated the results of research from all departments of science.

The devotees of laryngology and otology have not been content to accept their life work as simply a means for earning a livelihood—they have not been willing to use it as a mere catch-penny device for the accumulation of wealth. They are found earnestly studying their special problems, even though they were required, in the hope of finding solution, to wander into the realms of all the pure and applied sciences. Witness what investigation has been made by Killian in embryology, Denker, Onodi, Cheatle and Turner in anatomy, Siebenmann and Wright in pathology, Wingrave in bacteriology, Fraenkel, Katz and Shambaugh in histology, Zwaardemaker and Bezold in physiology, Edelmann, Gradenigo, Hammerschlag and Kyle in chemistry and physics—research of the highest merit, accepted throughout the world.

From small beginnings, and without great encouragement, we have journeyed through the few years since our establishment and have reached a point in our activity where our work is recognized as one of the great component parts of medicine, respected, honored and commended for its progressive development, for its notable achievements and for the high position which it has attained.

537 North Grand Avenue.

Original Articles

MIDDLE-EAR SCLEROSIS, OR ATROPHIC MIDDLE-EAR CATARRH.*

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This condition depends on trophic changes and, in contrast to a multitude of clinical forms that have been described under various names, it has a comparatively simple pathology. The clinical appearances vary with the location and degree of the pathologic change and with the structure and tissue affected. However, since the treatment is not dependent on these circumstances, it is only confusing to go into minute details in regard to the clinical pictures. Not only does the appearance change with every conceivable combination of the part affected but also with every stage of the pathologic change. The forms which the sclerosis may assume are as numerous as the combinations of stages and anatomic parts will allow. For instance, the sclerosis may be located in any part of the tympanum and the various pathologic changes may be going on at the same time. Formerly this great diversity caused considerable confusion in our understanding of the subject. In reality, however, the condition is exceedingly simple and includes not only the "dry catarrhal" but also the suppurative process. The symptomatic importance of the otosclerosis varies according to the location of the pathologic change. The most harmful location is that in the *neighborhood of the foot plate of the stapes*, while the most readily diagnosticated occurs in the drum membrane where the changes are in plain sight.

Otosclerosis begins with a general or localized disturbance of circulation of the mucous lining of the middle-ear tract. This disturbance is irregular in its course and is subject to marked intermissions and remissions, especially at its inception. Anemia may be noticeable from the start or there may be initial hyperemia with fibrosis or hyperplasia of connective tissue. The connective tissue contracts and anemia follows the compression of the blood vessels. This anemia causes the sclerosis. The sclerotic mucous membrane appears stiffened, thickened and gray and sometimes contains macroscopic deposition of lime salts. The sclerotic process first affects the mucous membrane; next the submucous or periosteal layer is affected because the blood supply derived from the mucous layer has been partially cut off. The periosteal layer goes through the same degenerative change as the mucous layer, but with this difference, namely, that here the deposition of lime salts is more extensive and takes the form of hyperostosis.

In spite of the fact that the pathologic changes are identical and that their resultant effects on the function of the sound-conducting mechanism are the same, except for the sloughing and erosion of the suppuration, it is not customary to consider the results of suppuration under the head of otosclerosis. The chief cause of great loss of hearing after suppuration of the middle ear is sclerosis. This is not, however, the special result of suppuration; that is to say, the great impairment of hearing is due not to the loss of parts but to the fact *that the functions of the remaining parts have been impaired*. This impairment is brought about by contractions of the fibrous tissues consequent to the inflammation and stiffening of the mucous and submucous layers.

We shall only mention in passing the labyrinthine extension of otosclerosis in hyperostosis and rarifying osteitis of the labyrinth capsule. As a consequence of the altered nutrition of the periosteal layer of the tympanum, the adjacent bone suffers from malnutrition, so that vascularization sometimes results and hyperostosis may take place to such a degree that the fenestral and labyrinthine spaces are obliterated.

The etiology of these mucous membrane disturbances of the middle ear is varied. The most important cause is circulatory disturbances of the tympanum following reduced patency of the Eustachian tube. The next most important cause is the result of fibrosis from inflammatory processes of the tympanic mucosa, resulting in decreased blood supply due to fibrous contractions and the shutting off of the vessels. The least common cause is found illustrated in the so-called otitis media catarrhalis, insidiosa. Here there is absence of primary middle-ear change other than the altered vasomotor action due to impaired function of the general or sympathetic nervous system consequent on general or nerve exhaustion chiefly occurring in menstrual or puerperal difficulties or in mental strain.

In most cases the diagnosis is readily made by inspecting the drum membrane. If the tissue of this membrane shows any changes other than those due to acute inflammation or loss of continuity, sclerosis is thereby indicated. These changes are increased or decreased transparency of long chronicity, and increased rigidity or relaxation of the membrane. Incipient sclerosis is indicated by subacute inflammatory conditions of the drum membrane with opacity and thickening due to the increase of fibrous tissue. Changes in the color of the drum membrane consequent on chronic congestion of the promontory are also indications of otosclerosis. When the so-called insidious form is present with a normal drum membrane the diagnosis is made by the functional tests which indicate an impairment of the sound-conducting mechanism not to be explained except by reduced stapes mobility.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

TREATMENT.

1. Treatment is directed to the correction of the systemic primary cause of the disturbed tympanic blood supply. Most important are general hygiene and systemic tonics, rest and correcting any local cause of the general nervous disturbance.

2. Treatment is directed to the nasopharynx in order to remove the causes of disturbed tympanic blood supply. The nasopharynx must be put in as perfect physiologic condition as possible.

3. Treatment is directed to the tympanic or tubal cause of altered tympanic blood supply which must be improved by local medical and surgical means. The tube must have its function completely restored. External mechanical obstructions to its action must be removed and astringents applied to the lining membrane.

4. Treatment is directed to the substitution of normal cell elements for the pathologic results of the sclerotic process. It is desirable to stimulate the tympanum violently in order to excite a reaction by which new blood vessels are formed and the circulation is restored, part of the sclerotic tissue absorbed and the normal tissue stimulated.

5. Treatment is directed to the restoration of the functions of the various parts of the sound-conducting mechanism. To this end we have at our disposal the various forms of massage and inflation. These are all good if used with caution. The indications for their use are restoration of normal mobility to these parts. Counter indication is the hypermobility due to stretching of the connective tissue beyond its limit of elastic recovery.

PROGNOSIS.

The prognosis without treatment is that the otosclerosis will follow an irregular course with increasing loss of hearing. Prognosis with treatment is favorable inversely with the advance and importance of the location of the sclerotic process. It is more serious when the foot plate of the stapes is involved and less so when the drum membrane is the part chiefly affected. Prognosis is good for arrest of the process. It is also good for improvement of hearing except in the extremely advanced cases. Sometimes the results of treatment are negative, and consequently chronic progressive deafness continues on its course unobstructed. More often there is very satisfactory improvement in hearing and arrest of the process. Most often there is an amelioration of the deafness and an arrest of the process. The result of the author's experience has been that 90 per cent. of advanced cases have improved: in the other 10 per cent., in spite of treatment, no improvement of the deterioration has followed: and 100 per cent. in the less advanced cases have shown an improvement.

Case 1 (No. 14765).—Otosclerosis due to general causes.

History.—A physician, aged 44, had noted some deficiency in the hearing of the right ear for several years. Of late this had been growing decidedly worse. He had been very much overworked.

Examination.—There was slight opacity, retraction and contraction of both membranes; the left ear was the worse. Eustachian tubes were pervious but not normal. There was slight relaxation of the drum membranes. Watch was heard in the right ear at 7 inches; in the left at 11 inches. Low tone limit: In right ear, 67 single vibrations; in left ear, 61 single vibrations. High tone limit: In right ear, 40,000 single vibrations; in left ear, 42,000 single vibrations.

Treatment and Result.—Thirty-seven days later, after better hygiene and a little rest, but no local treatment after the first visit, the drum membranes were improved in appearance. Hearing for the same watch: Right ear, 13 inches; left ear, 16 inches. The improvement, he says, has continued to increase.

Case 2 (No. 14500).—Otosclerosis of nasal origin.

History.—Patient, a woman, aged 38, had been troubled with poor hearing for a long time and had received much treatment by many specialists.

Examination.—There was slight tinnitus, deafness and stuffed feeling. The drum membranes were thickened and slightly depressed; the light reflex was very small. Right ear heard watch at 9 inches; left ear at 21 inches. Low tone limit: Right ear, 67 single vibrations; left ear, 23 single vibrations. Turbinals were thickened and there was pharyngeal lymphoid hypertrophy.

Treatment and Result.—Valsalva inflation was positive and improved the hearing. Nitrate of silver was applied to the nasopharynx. Two days later the left ear heard watch at 5 feet; the right ear at 24 inches. Patient was perfectly satisfied with the result and has remained so a year and a half.

Case 3 (No. 14640).—Otosclerosis due to disturbance of the Eustachian tubes.

History.—A physician, aged 41, first noticed defect in hearing fifteen years ago, following scarlet fever There was no pain or suppuration at that time.

Examination.—The right membrane when first seen, was contracted, color fair; the left membrane was white and contracted. Tubes were patent with slight obstruction to Valsalva inflation. Watch was not heard. Politzer's acoumeter was heard at 5 feet in the right ear; at 7 inches in the left. Low tone limit: 256 single vibrations for both ears. High tone limit: Left ear, 34,000 single vibrations; right ear, 30,000 single vibrations. Bone conduction was reduced in both ears.

Treatment and Result.—Stimulating astringents to nasopharynx and mouth of tubes. A month later right ear heard Politzer's acoumeter at 9 feet and the watch at 2 inches; left ear heard the acoumeter at 54 inches. Patient says that hearing has continued to improve.

Case 4 (No. 12029).—Otosclerosis consequent to acute catarrhal inflammation of the middle ear.

History.—A woman, aged 40, had a severe attack of influenza eleven years ago. At that time there was no pain or discharge, but deafness and buzzing, like a buzz-saw and sounds of escaping steam.

Examination.—Both membranes, when first seen, were depressed and cloudy. Low tone limit by air: 118 single vibrations in both ears. High limit: 78,000 single vibrations in both ears. Politzer's acoumeter was heard in right ear at ¾ inch; in left ear at ½ inch.

Treatment and Result.—Four days later, after astringent stimulation of the mouths of the tubes the hearing tests were: Politzer's acoumeter in left ear was heard at 5 inches; in right ear at 13 inches. Tinnitus occasionally stops now, and when present it is very faint. Improvement has been maintained.

Case 5 (No. 12021).—Otosclerosis characterized by thick, opaque drum membranes.

History.—A man, aged 54, had noted that he was growing deaf of late.

Examination.—The drum membranes were white, opaque and flat; the right ear was the worse. Politzer's acoumeter was heard at 1 inch.

Treatment and Result.—Three weeks later, after treatment with nasopharyngeal stimulating astringents and inflation, acoumeter was heard at 6 feet.

Case 6 (No. 14409).—Otosclerosis due to deposition of lime in the drum head.

History.—A man, aged 69, who appeared very old, had had increasing deafness for eight years, with buzzing tinnitus. There was a bad family history for deafness in old age.

Examination.—Membranes were slightly depressed and opaque; there was calcification of interior superior quadrant. Acoumeter was heard in the right ear at 7½ inches; in left ear at 5½ inches. Watch was not heard by bone or air. High limit tone perception: In left ear, 46,000 single vibrations; in right ear, 30,000 single vibrations. Low tone limit: 67 single vibrations in both ears.

Treatment and Result.—Astringents; stimulation of nasopharynx and nasal fossæ. Five months later the right ear heard the watch at 1½ inches. Improvement continued for a year, when hearing began gradually to decrease from rapid senile deterioration.

Case 7 (No. 14214).—Atrophic thinning of the drum membrane.

History.—Woman, aged 49, had deafness which had been increasing for many years.

Examination.—Left tympanic membrane was thin and transparent. Tube was patulous. In left ear, Politzer's acoumeter was heard at 4 inches; in right at 12 inches.

Treatment and Result.—Astringents to nasopharynx; splint on the drum membrane and massage. Forty-five days later Politzer's acoumeter was heard in the right ear at 8 feet; in the left, at 6 feet. The improvement continued to increase and has remained satisfactory.

Case 8 (No. 13092).—Rigidity of major ossicles.

History.—A woman, aged 35, had deafness following influenza, slowly increasing for five years with annoying tinnitus.

Examination.—Membranes were retracted with normal color; there were no light reflexes. Siegle showed malleus immovable. Tubes were impervious to Valsalva inflation. High tone limit: 38,000 single vibrations. Low tone limit: 256 single vibrations. Politzer's acoumeter was heard in the left ear at 2½ inches; in the right at 3 inches.

Treatment and Result.—Inflation and stimulating astringents to nasopharynx. Eight weeks later, light reflexes had returned. Politzer's acoumeter was heard in the left ear at 6 inches; in the right at 13 inches. Mobility of malleus was partially restored.

Case 9 (No. 14177).—Relaxation of major ossicles.

History.—A woman, aged 39, in the left ear had patulous tube; there was paracusis of Willis. She had had constant tinnitus for twelve years; whistling like ferry-boats for ten years, and later a noise like escaping steam and a noise like that from the effects of quinin. Attempts at listening increased the tinnitus.

Examination.—Politzer's acoumeter was heard at 34 inches. Tympanic membrane was slightly thickened; it moved bodily outward on inflation, carrying with it the malleus, short process and all. Perception of low notes was decreased; of high notes, increased. Bone conduction was much increased.

Treatment and Result.—Application of collodion to the drum membrane and stimulating astringents to the nasopharynx. After forty-five days the ossicles seemed to be held in place more tightly. Politzer's acoumeter was heard at 8 feet. Improvement continued.

Case 10 (No. 14268).—Stapes fixation, not osseous. Improvement following treatment and marked recrudescence of the affection on interruption of treatment.

History.—A woman, aged 45, had been deaf for twelve years; the condition was first noted after birth of a child. She used to have loud tinnitus; now she has but little. She had neurasthenia two years ago.

Examination.—Tympanic membrane in right ear was sunken and clear, but dark; good reflexes. Left ear was about the same. There was some congestion of malleus. Siegle showed mobility of mallei. High limit tone perception: Galton in left ear, 43,000 single vibrations; right ear, 26,000 single vibrations. Politzer's acoumeter was heard in right ear at 1 inch; in left ear at 1½ inches. Low tones were deficient. Bone conduction was slightly increased. Gillette test was negative.

Treatment and Result.—Stimulating astringents to nose and nasopharynx, and aural massage. Four months later Politzer's acoumeter was heard in right ear at 8 inches; in left at 6 inches. The treatment was interrupted. A year later the above-noted improvement was lost. Politzer's acoumeter could not be heard in right ear; and in the left ear it was heard at 1 inch. High tone limit: Right ear, 16,400 single vibrations; left ear, 23,000 single vibrations. Bone conduction was somewhat reduced. She could hear loud conversation at 6 inches. The membranes looked well, but were slightly congested.

Case 11 (No. 13036).—The insidious form of middle ear catarrh with a drum membrane that appeared normal. One year's duration.

History.—A man, aged 24. Deafness in the family.

Examination.—Drum membrane was normal. There were buzzing tinnitus and sounds like the ocean, and various other noises. Politzer's acoumeter was heard at 12 inches.

Treatment and Result.—Astringent application to the nasopharynx. Fifty-two days later Politzer's acoumeter was heard at 8 feet. Watch was heard in right ear at 6 inches. Tinnitus was very faint. The improvement has continued.

Case 12 (No. 13071).—Otosclerosis with tympanic congestion.

History.—A woman, aged 74, in whom hearing had been diminished some years.

Examination.—Drum membrane had small reflexes, good color; it was contracted but not retracted. Politzer's acoumeter was heard in right ear at 10 feet; in left ear at 27 inches. Watch was not heard.

Treatment and Result.—Intranasal and nasopharyngeal treatment for thickened mucosa with stimulating astringents. Twelve days later Politzer's acoumeter could be heard in right ear at 15 feet; in left ear at 42 feet. Two years later the same watch could be heard at 4 inches in both ears. Improvement continued; there was very slight decrease during four years, due to senile change.

Case 13 (No. 14411).—A resistant case of otosclerosis.

History.—A man, 37 years old, in whom ten years of deafness "followed a series of bad head colds; took a year for it to get bad."

Examination.—Tinnitus was variable; sometimes loud. He heard loud sounds but understood no words. He read lips fairly well. Valsalva inflation was imperfect. Tympanic membrane in right ear was flat, retracted, thick and pink; in left ear it was the same, but white. I could not make an accurate test of the hearing power, it being extremely slight.

Treatment and Result.—Many varieties of treatment were employed for a year and a half without any apparent effect on the ears except to make the tubes nearly normally patulous. After seven months of treatment, Edelmann-Galton whistle could be heard in left ear; 24,000 single vibrations, heard by air positively. After four months, Edelmann-Galton whistle (10,426 single vibrations) could be heard in the left ear; right ear, 13,800 single vibrations. Four months later Valsalva inflation was nearly normal. Edelmann-Galton whistle could be heard. High tone limit: In right ear, 6,800 single vibrations, heard at 3 inches; in left ear, 9,950 single vibrations. Left ear could hear 6,800 single vibrations at 11 inches.

SUMMARY.

Otosclerosis is due to trophic changes when disturbances in the blood supply have produced malnutrition of the tympanic contents and walls. The primary causes of the changed circulation are local and general. All varieties of chronic middle-ear catarrh and the stiffening following middle-ear suppuration are various phases of middle-ear sclerosis. Except in very advanced cases, the prognosis is good for arresting the process and improving the hearing.

DISCUSSION.

Dr. Norval H. Pierce, Chicago: For the diagnosis of otosclerosis two factors are necessary, a patulous tube and an unaltered tympanic membrane, a membrane that appears by otoscopy to be quite normal. In some cases there may be other changes, changes in the tympanic membrane, in the Eustachian tube. Then other factors are present which are entirely foreign to otosclerosis. It may be that Dr. Bryant uses the term in a different sense from the way I do. Indeed, the retention of the term "otosclerosis" is unfortunate as it is misleading in its significance; "spongification of the labyrinthine capsule" is more exact, and gives at once to the mind an intelligent idea of the location and character of the pathologic process. Bezold gave us the following points in diagnosis in connection with absence of change in the Eustachian tube and tympanic membrane: progressive deafness, considerable loss of hearing for the lower tones, about thirty-six double vibrations a second, the osseous conduction for the A fork greatly increased, and the osseous conduction for the small A-1 fork greater than the aerial conduction. By manometric tests at postmortem on Bezold's case it was found that the footplate of the stapes was fixed in the fenestra ovalis. Microscopic examinations showed that there was osseous fixation and that these changes were due to a resorption of the normal ivory-like bone in the capsule and the reposition of soft, spongy bone which had for its end stage a morphology similar to the cancellous tissue of the long bones. There was no change of this sort in the bone of the tympanic cavity other than about the footplate of the stapes, nor was there any change in the contents of the cavum. This was later proved by more than a hundred postmortems. There is one other type, and that is the one in which this spongification takes place elsewhere than about the foot plate of the stapes. There may be areas of spongification about the various semicircular canals and the cochlea without stapes fixation. These cases are just the reverse of stapes anchylosis. There is shortened negative Rinné, lessened osseous conduction, without loss in the lower scale. This is confirmatory of Helmholtz' theory that the dense walls of the labyrinth act as a resonance organ of the internal ear. All through Nature, wherever there is a cochlea, that cochlea is surrounded by dense, ivory-like bone. It is necessary for normal hearing. When it becomes softened or cancellous, and changes in relation between the perilymph and the lymph circulating through the bony channels occur, then we have the various phenomena that exist, the tinnitus and the deafness in otosclerosis. In Dr. Bryant's cases there is no otosclerosis. His cases are tubal in their nature, as evidenced by the changes in the tympanic membrane and the increase of audition following inflation. We have the most happy results in our treatment of these cases. But when the diagnosis of otosclerosis or spongification of the labyrinthine capsule is made it were best to abstain from inflation, massage and all of those manipulations which in middle ear disease are beneficial. Not only are these operations without benefit in otosclerosis; they are harmful. The patient should be cautioned against exhaustion from whatever cause, together with overheating or chilling of the body, as any of these conditions may be and all have been followed by most disastrous and sudden progress in the course of the disease.

Dr. C. F. Welty, San Francisco: Dr. Bryant's classification is wrong and confusing. Otosclerosis is dependent on a definite pathologic lesion of the sound-perception and the sound-conduction apparatus. If cases are permanently benefited by treatment, they are cases of some other pathologic lesion than otosclerosis. The appearance of the drum membrane has nothing whatever to do with otosclerosis. Occasionally a pinkish appearance of the membrane is produced by the color of the inner ear showing through an atrophic drum membrane. Grunet said that all such cases were made worse by treatment. The cases of otosclerosis that come to me are returned to the physician sending them with a statement that more good can be accomplished by keeping the patient in good health physically than by anything an otologist can do. Kerner says that all cases of otosclerosis are hereditary, and that the only recommendation to be given these people is not to marry. For the last two years I have been advising all married female patients with otosclerosis not to become pregnant, for with each pregnancy the deafness and tinnitus is increased; and if any do become pregnant an early abortion should be done, so that the ears will not materially suffer. I am not positive that this early abortion will prevent the increase of the ear symptoms. However, in the light of modern therapeutic abortion, it should at least be considered.

Dr. E. R. Lewis, Dubuque: Dr. Pierce and Dr. Welty have given an absolutely unfavorable prognosis in these cases of otosclerosis which I think possibly is a little extreme. I agree absolutely that the sclerosis is a distinct entity in which the prognosis is generally very bad; but Politzer has reported having seen some improvement in cases which were associated with the gouty diathesis and hereditary syphilis, and these cases have shown slight improvement under his treatment directed against the particular diathesis that the patient showed.

Dr. Norval H. Pierce, Chicago: I said nothing about the prognosis in cases of otosclerosis. It has been misnamed progressive deafness. Some of these cases are not progressive at all. They begin and continue for years with only the slightest amount of deafness. There are cases, unfortunately, that have very rapid progress, but these are very rare, as a matter of fact. It is the rule in the otosclerosis or spongification of the labyrinthine capsule that they reach a certain stage and stay at that point for years. The prognosis, therefore, as regards hearing in spongification of the labyrinthine capsule is not necessarily very bad.

Dr. J. Holinger, Chicago: What does Dr. Bryant call atrophic middle-ear catarrh? Where is the atrophy? What is the pathology of his atrophic middle-ear catarrh? I have been speaking about these tuning-fork variations, about the pathology of these cases for nearly ten years. The prognosis of these cases is, as Dr. Pierce says, not at all so bad as to complete loss of hearing; but as to complete recovery of hearing it is bad. I have still to hear of or see a patient that regained his hearing in a case in which the tuning-fork examination and the history were clear. One point, however, in the treatment has been overlooked, and I think it important. Patients should be guarded from any overexertion. That comes back to the question of blood pressure: not low blood pressure, but high blood pressure. If these patients with otosclerosis constantly overwork, work sixteen hours a day and overdo everything, very likely the deafness will increase to total deafness. This is the explanation why all massage treatments invariably are followed with bad success in these cases.

Dr. J. E. Logan, Kansas City, Mo.: I believe that Dr. Bryant has outlined in his paper more the effect, or the sclerotic conditions pure and simple as they exist in the middle ear, producing an atrophic condition of the drum and not the spongification spoken of by Dr. Pierce. To my mind the scleroses of the middle ear are so dependent on the ventilation of the middle ear through atrophic changes manifested in the tube, that whenever the tube has been obstructed or there has been a lack of ventilation of the middle ear, atrophic changes take place. With fifteen pounds pressure to the square inch on the outside and less than that, or none, inside, changes such as named are bound to take place. The conditions found in otosclerosis are entirely different from those resulting from the spongification of the labyrinthine capsule or the petrous portion of the temporal bone. But ventilation is necessary. In regard to the patulous tube, although apparently there may be plenty of ventilation, or plenty of opening, often there is closure of that canal throughout some of its course; strictures may exist, and I think it would be well in every case to investigate by means of the bougie.

Dr. George E. Shambaugh, Chicago: The term "otosclerosis," used to include adhesive forms of middle-ear disease, simply helps to perpetuate a misconception in regard to the real nature of otosclerosis. The term was originally applied to this condition by von Tröltsch, because of a misconception regarding the real pathology of the trouble. If we examine a number of cases of deafness, and attempt to make a diagnosis of the cause of deafness from the appearance of the drum membrane, the cases will naturally be divided into two groups: First, those cases in which the thickening, retraction or scarring of the membrane points to middle-ear disease as the cause of deafness; and, second, those cases in which a perfectly normal drum membrane points to internal-ear trouble as the cause of the deafness. When this second group of cases is tested with the tuning forks, it will be found that in some of the cases the tuning-fork tests will indicate clearly diseases of the sound-perceiving apparatus as the cause of the deafness, whereas in other cases the tuning-fork tests will give all the typical reactions characteristic of disease of the conducting mechanism. It was to this last group of cases, in which was found a normal membrana tympani and Eustachian tube, and in which the tuning-fork tests indicated obstruction in the conducting mechanism as the cause of the deafness, that von Tröltsch applied the term "otosclerosis," meaning an atrophic form of middle-ear catarrh as distinguished from the hypertrophic form which invariably produced decided alterations of the membrana tympani. We now know that a primary atrophic form of middle-ear catarrh is not the pathology of these cases of otosclerosis, but that we have in reality to deal with a primary disease of the bony capsule of the labyrinth, and that the tuning-fork tests pointing to obstruction in the conducting mechanism are explained by the fact that this disease of the capsule quite early produces a bony fixation of the stapes in the oval window. In every case examined postmortem in which, from the appearance of the drum membrane and the tuning-fork tests the diagnosis of otosclerosis had been made, without exception, the anchylosis of the stapes as the result of disease of the labyrinthine capsule has been found.

As to prognosis, when we understand the pathology of otosclerosis there can be no question as regards improving the condition when bony fixation of the stapes has taken place. In some of the incipient cases, however, before the stapes becomes firmly fixed, a decided improvement in the hearing will occasionally result from inflation of the tube and massage of the ossicles. Such improvement is, however, only temporary, as the progress of the disease will overcome any loosening up of the stapes that may be brought about. I mention this particularly because the statement is often made that in incipient cases the diagnosis between otosclerosis and middle-ear catarrh can be made by noting the improvement from treatment in middle-ear catarrh, whereas in otosclerosis no improvement is possible. This is, however, not strictly true.

PSYCHOTHERAPY.*

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Some physicians, like men who are told that they have used prose all their lives without knowing it, are astonished at the statement that no small part of their function as practitioners consists in the use of psychotherapeutic influences. Ever since the primitive mother began to kiss the sore finger of her crying child to make it well the human race has, partly instinctively, partly consciously, resorted to mind cure in one or another of its diverse forms to assuage its sorrows, to relieve its anxiety or to mitigate its pain. For these alleviations, sometimes priests, sometimes physicians, sometimes laymen have been agential.

There has been much disagreement as to the definition of the word "psychotherapy." Some have supposed that it is synonymous with treatment by hypnotism or suggestion; others have assumed that it is limited in its applicability to psychic diseases and still others have fallen into the error of regarding its effects as wholly psychic (in the abstract or metaphysical sense), not realizing that, in medicine, guided by the conception of psychophysiologic identity, such purely psychic influences are not conceivable. As medical men, we may be permitted, at any rate for purposes of description, to distinguish as psychical, the subjective side of brain activity, and as physical, the objective side of it, even if we admit that our total knowledge of the latter results from phenomena or psychic events, the external cause of which is obscure. Asking permission then of the metaphysically inclined to speak in these terms as thus medically defined, it may be said that we know of no way of affecting a human being psychically except through stimuli which excite his afferent nerves, or through stimuli applied directly to his brain. The nerves carry the excitation to the central nervous system and traversing chains of neurons impinge finally on the neurons of the cerebral cortex. Certain of the excitations here set up correspond to certain sensations, feelings and ideas. Pure sensations and pure ideas, independent of physical conditions in the cerebrum physiologists assume do not exist. If this assumption be accepted then it is obvious that any influence which exerts a psychic effect also produces a physical change in the body, and we can well understand how physical and chemical influences which lead to alterations in the structure and function of the neurones of the pallium may have a profound effect on the psyche. In other words, every form of psychotherapy is also a form of physical therapy, and to avoid confusion with spiritualism or other mystical conceptions it might be better to speak of psychophysical influences and psychophysical therapy than to use the terms in vogue. Medical psychotherapy knows nothing as yet of telepathy or thought-transfer through other than recognized physical channels. In the present state of our knowledge at any rate *eine Psychotherapie ohne das Mittelglied der Empfindung ist Humbug.*

Psychotherapy has through the ages been instinctively practised but only comparatively recently has it begun to be consciously and systematically used. Suggestion is, and always has been, one of the most powerful of remedial agents.

At all times a large part—not all by any means—of the treatment of disease by drugs has in reality consisted of psychotherapy. Certain examples of this stand out conspicuously in the history of medicine. The use of theriaca had great vogue for centuries after its introduction by Andromachus of Crete. Orvietan was long believed to be a sovereign remedy against poison, the opinion being almost universally received by the learned as well as the vulgar. Red coral was strongly recommended by Rhazes in certain cases and antimony was at one time (after the cure of Louis XIV. in 1653) the most frequently prescribed of drugs. When one thinks of the enormous number of substances and preparations which have come and gone, each highly vaunted in its time for its marvelous effects, one begins to realize the larvate psychotherapy in treatment by drugs. This pharmacal psychotherapy has for the most part been instinctive, the physician believing in the virtues peculiar to the drug, and the patient believing in the physician. Sometimes psychotherapy by drugs has been consciously employed, as in the use of the placebo and in the pill of methylene blue. One thing that makes judgment so difficult regarding pharmacotherapy in any given case is the lack of means of determining satisfactorily the part which psychic influences have played in the result obtained. We must be grateful to experimental pharmacology for the help it promises to bring. It has been well said that "it is we ourselves who give to many medicaments their efficacy, and their good effects persist as long as does the faith of physicians and patients in their virtue."

The cures which from time immemorial have been attributed to magic or to supernatural means are naturally regarded by medical men as instances of success through psychotherapy also. It was the belief of the patient which did the work; shrewd Paracelsus, physician and alchemist, writing of faith-cure four hundred years ago said: "No matter whether the object of your faith is real or false, the results you get will be equally good." Read the accounts of the way the wonderful results were obtained by treatment in the temples of Isis in Egypt and those of Æsculapius in Greece and you will find recorded an elaborate organization of suggestive measures which rivals that of the best equipped modern sanatorium. Indeed, in the pilgrimage to the temples, the preparatory practices, the temple walks the sacrifices with musical accompaniment, the prayers, the therapeutic conversations with the priests and, above all, the oracular dreams, we recognize a series of experiences so pregnant with psychotherapeutic possibilities that we wonder whether some healers of to-day are not too simple or too lackadaisical to make their work effective.

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The doctrine of magnetism dates from Paracelsus' time, out of it grew mesmerism at the end of the eighteenth century, and it was one of Mesmer's pupils who, following the example of his master and trying to cure by the "universal fluid," accidentally threw a patient into hypnotic sleep. The history of hypnotism has been so often and so well written that I need not deal with it here. The scientific studies of Braid, Liebeault, Bernheim, Charcot and Janet (to mention chiefly foreign names) have thrown a great deal of light on hypnotic phenomena, and even those who are opposed to the use of hypnotism as a therapeutic agent can scarcely fail to be grateful for the new knowledge gained concerning the human mind through investigations into its nature. The study of hypnotism too has led to a great increase in interest in the effects of suggestion made in the waking state, both heterosuggestion and autosuggestion.

More important, perhaps has been the revival and development of psychotherapy by persuasion rather than by suggestion, in this form of mental treatment the higher mental powers of the patient are directly appealed to, the cure being brought about largely through the re-education of the patient by rational therapeutic conversations instead of through the exercise of authority or through mere unmotivating suggestion. DuBois of Berne, Dejerine and his pupils in Paris, Oppenheim in Berlin and various clinicians in this country have been especially interested in this form of psychotherapy.

Isolation as a psychotherapeutic measure should not go unmentioned. It is the great merit of Dr. Weir Mitchell that he saw the protective benefits of isolation and realized its aid in instituting any regular physical and psychical régime in the treatment of the severer forms of the psychoneuroses; he made it an important element in his so-called rest-cure and others who employ it in selected cases are loud in its praise.

A striking fact about several forms of psychotherapy is their origin at least in germ, outside of the ranks of the medical profession. Isolation, for example, arose in antiquity as a self-inflicted discipline in the practices of the anchorites hermits and monks, who withdrew themselves from society into deserts or solitary places, sometimes as a penance, but more often to avoid the temptations of the world, to devote themselves to contemplation and religious exercises and to attain to a peace and calm otherwise denied them. To many men and women there come times in life when separation from the world seems to be a necessity, they feel that they must get away from people, from the duties of society, from an unsatisfactory environment. The "retreat" of the Catholic church meets this need for some. The summer vacation in the wilderness satisfies it for others.

Psychotherapy by suggestion was largely extramedical in source. It began in the form of secret remedies of quacks, in the performance of miracles, in the use of charms, philters, talismans, amulets, phylacteries and mezuzahs, and in the application of magnets and metals. The laity have been fertile in the devising of impressive suggestive measures from the earliest times down to the era of Perkins tractors, proprietary medicines and electric belts.

Even persuasion the last psychotherapeutic method to be thoroughly employed consciously by physicians, dates back to the stoic philosophers with Seneca as a type, and to the confessors and moral directors of the church. These men worked out excellent methods for helping the aboulic and the victims of morbid scruples to overcome their inertias, their doubts and their fears.

In the United States, the development of psychotherapy outside the medical profession has been perhaps as notable as inside it. Nowhere, unless in Germany, have "patent" and proprietary medicines been more in vogue. In the wide-spread mind-cure movement here we see a development of great importance, designated by one of our leading psychologists as the only decidedly original contribution of the American people to the systematic philosophy of life. The "new thought" advocates and the christian science healers combine suggestion in the waking state with more or less persuasion, in the "Emmanuel church movement" (which through medical aid separates so-called organic from so-called functional cases) the clergymen who treat the functional disorders use suggestion in the waking state persuasion, and also, to some extent certainly, suggestion in hypnosis.

Despite the fact that psychotherapy has been so prominently extramural in source and prevalence it is to be said for medical men that when convinced of its efficacy and legitimacy they have been willing to adopt it. Further, for the foundation of the theory of the subject and for nearly all actual scientific knowledge regarding it the world has to thank the investigations of members of our profession. Any neglect, recalcitrance or protestation on the part of physicians in the matter have been due, in my opinion, partly to a desire to avoid even the appearance of evil and humbug, partly to the exercise of so much zeal in those physical, chemical and biologic studies which are flooding our science with new light that less time and attention have been devoted to psychologic and psychiatric studies than they deserve.

While the main field of application of psychotherapy is in the treatment of the psychoneuroses, it has also functions in combating the psychoses on the one hand and the whole group of somatic diseases on the other. All symptoms which can be influenced by the nervous system are more or less accessible to psycotherapy. Moreover, in the carrying out of any physical methods of treatment the patient must be led to have belief in their efficacy and he must be brought to a willingness to do what is recommended. The establishment of medical obedience, as well as the awakening of confidence, which precedes it, are essentially psychotherapeutic procedures.

Attempts have been made to classify psychotherapeutic methods into: (1) those which act chiefly by virtue of the particular feeling-tones (in the pleasure-pain series) which accompany *the sensations called forth by the* method used and (2) those which act through the intellectual processes excited by the measures employed. The former are naturally more successful in affective disturbances the latter in intellectual. But the mind is after all a unity and we nearly always have to deal with both classes of disturbances in the same individual and therefore require to use both sets of methods.

In treating abnormal affective states we may try to get rid of the painful sensations and ideas (negative feeling-tone) by the substitution of pleasurable sensations and ideas (positive feeling-tone). Amusement, diversion, exercises are resorted to for this purpose. We encourage the patient to go to the play or the opera, to play golf or bridge or "what-am-I," to enter more fully into social life; or we recommend a trip to Atlantic City or to Hot Springs or to Europe. We help the handicapped to find suitable remunerative occupation and we try to transplant the misunderstood into a more sympathetic environment. The methods of treatment in which rewards and penalties are used also come in here; they may be employed with patients of all ages but require infinite tact on the part of the physician; individualization must always be kept carefully in mind.

In treating patients through the intellect we use either suggestion or persuasion. Very different definitions are given to these two terms by different writers. In suggestion, we make no effort to use ideas which will explain to the patient why his interpretations of his symptoms are wrong, but we tell him they are wrong and rely on the authority we have over him to make the suggestive idea effective. Or in some other way we make the mind of the patient (without his control) accept some good idea. When using persuasion we lead the patient by means of his reason (with his control) to accept an idea and so to arrive at a new opinion. We speak of heterosuggestion or heteropersuasion in these cases, but we should similarly discriminate between autosuggestion and autopersuasion. In autosuggestion one fixes in his own mind an idea the truth or falsity of which he has not carefully examined and criticized; when on the other hand the idea is not accepted until carefully verified the instance is one of autopersuasion or self-instruction.

Heterosuggestion may be given in the waking state or in hypnosis. In order that suggestion may be successful, faith in authority must in some way be aroused. Quacks excite this authority idea by non-ethical, illegitimate methods. Marvelous therapeutic results are advertised and testimonials of the cured are distributed. Priests help to arouse it by moral and religious appeal, sometimes ascribing the cure to supernatural agencies. The pilgrimages, prayers, relics and heaps of crutches help to enliven faith. "New thoughters" advertise the successes resulting from the acceptance of what they regard as an important philosophic system, involving among other things a belief in the saving grace of optimistic moods and healthy-minded attitudes. Christian science does it by combining the ideas of religion and philosophy into a system, denying the existence of disease, and advertising widely the cures of those whose symptoms have disappeared as soon as they have fully accepted the doctrine.

Physicians awaken confidence and inspire the idea of authority by their scientific training, and by their mode of inquiry and of examining the patient. The young man without reputation can arouse faith if he have a suitable personality and be well trained in the methods of taking the anamnesis and of making the physical examination. Blood counts, bacteriologic cultures, determination of opsonic indices, tuberculin tests, sphygmographic tracings, *x*-ray photographs and the whole paraphernalia of clinical diagnosis not only give real information to the physician but they also excite belief. After the thorough examination, a definite diagnosis, briefly stated to the patient, prepares him to hear what the treatment is to be and leads him to submit to it hopefully.

Suggestion in the waking state may be larvate or direct. In treating functional nervous disorders many physicians resort to larvate suggestion. They recommend massage, or a diet, electricity or a drug or a combination of several measures and tell the patient that he will get well. They see the patient again from time to time and assure him that he is incontestably better, and try gradually to establish in him the conviction that he is being cured and, finally, that he is cured. The conscientious physician (when using larvate suggestion) does not, as a rule, prescribe measures which can not of themselves do any good whatever, but always tries to use means which will, through their physical effect on the body, aid at least to some slight extent the psychotherapy in restoring health. The more faith he has himself in the bearer of the larvate suggestion the more, other things equal, he is likely to excite in his patient.

The advantage of hypnotic suggestion lies in the greater susceptibility of the patient to heterosuggestion in this sleeping state. Every *hypnotiseur* develops his own technic of producing hypnosis though all the methods have in common the suggestion of sleep. The patient's belief is aroused before hypnosis is undertaken and the sleep is suggested, usually by the aid of certain physical methods (fixation of sight on a bright object; strokes or passes; pressure on the eyes, etc.). No rigid routine is satisfactory; any method must be adapted to the individual case, and the most skilful hypnotizers are resourceful in little tricks which aid in strengthening the suggestion and in inducing sleep. Therapeutic suggestions, repeated several times, are usually given in the more superficial stages of hypnosis (somnolence and hypotaxia) rather than in the more dangerous deeper stages (somnambulistic sleep with hallucinations and amnesia). The dangers of hypnosis have been exaggerated by some and under-estimated by others. We know now pretty well what they are and methods for avoiding them have been and are being worked out. In this connection the process of de-suggestion as advocated by Bernheim seems to be very important. Certainly no one except a medical man or a trained psychologist should use hypnosis; needless to say, a third person should always be present.

In psychotherapy by persuasion the physician has opportunity for the exercise of the highest powers of his own mind and he makes his appeal to the best qualities of the minds of his patients. The principles are those of education in general; indeed psychotherapy by persuasion might well be designated medical pedagogy. It involves training of the voluntary attention, schooling of the emotions and rational education of the will. It is the most rewarding of the psychotherapeutic methods and seems destined to occupy a large part of the energy of medical practitioners. By its aid the physician is able to rid a patient's mind of harmful ideas and associations, refuting them, or, by ignoring them, leading the patient to forget them. With its help too he creates new ideas and associations in the mind, supplementing perhaps a limited or faulty early education and environment; through occupation-therapy of various sorts he may teach the patient to find health and satisfaction in work. And here the medical psychotherapeutist joins hands with the great army of educators—the teachers, the clergymen and the social service workers of his time.

The diseases chiefly amenable to psychotherapy, namely the psychoneuroses, are most troublesome to treat when their management is not understood, but many a mind with its door apparently permanently closed to healthy influences will speedily open to him who knows how to find the key to its lock. No physician has the key to all the doors he is asked to open; I know of no psychotherapeutist who has all successes and no failures; but any intelligent medical locksmith may learn how to gain entrance to many abnormal minds if he interest himself in the problem. It is saddening and discouraging to meet with some of the somatic derelicts we see in our offices and in the hospital wards (victims of large white kidney, thoracic aneurism, non-compensable myocardial insufficiency, dementia paralytica or carcinoma ventriculi) for in these cases we realize how little as yet we are able to offer them in the way of help. It is gratifying by contrast to see certain of the psychoneurotics who have been, perhaps, miserable invalids for years, burdens to themselves and to their friends, reclaimed by suitable means, made well again and equal to normal life. The limitations of psychotherapy are definite; they are given by the capacity of the individual brain for education and by various physical and social factors. It is matter for satisfaction that its field of application is as broad as workers on the subject are finding it to be. It remains for the future to reveal to us all the opportunities of which we may take advantage in extending and improving the activities of that great organ of adaptation in our bodies—the cerebrum. Here lies a fruitful territory for clinical research.

Psychotherapy has had such a "yellow streak" in it that many medical men have refrained from utilizing to the full the good in it. This is one reason why it is desirable that conservative, scientifically trained men should work with it and let us know their experience concerning its advantages on the one hand and its limitations and dangers on the other. Its use should be preceded in every case by the making of an accurate diagnosis by our best methods. It is no cure-all, but in certain cases it is indispensable, and with all patients it is a valuable supplement to other forms of therapy.

6 Franklin Street, East.

ANEURISM OF THE HEART.

WITH REPORT OF A CASE ASSOCIATED WITH MEDIASTINO-PERICARDITIS.*

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Little space is given to the consideration of this subject in text-books on the principles and practice of medicine, or even in those on diseases of the heart. By the earlier medical writers the term "cardiac aneurism" was used to signify enlargement of the heart. Thus Auenbrugger and Corvisart used the terms "aneurysma activa," signifying enlargement from hypertrophy, and "aneurysma passiva," signifying enlargement with dilatation. Several years later John Hunter and his nephew Matthew Baillie, gave to the term its modern significance, viz., a partial dilatation of the cardiac wall; hence aneurism of the heart was often spoken of as partial aneurism.

In the general literature to-day three different conditions are spoken of under the term aneurism of the heart, namely:

1. Aneurismal dilatation of the coronary arteries, which may vary in size from a mustard-seed to a cherry, may be multiple or single, and is due to sclerosis or embolism of these vessels.
2. Aneurism of the valves of the heart, by which is meant a cavity in the substance of the valve, containing pus or other inflammatory products, clotted blood or débris. These arise from small areas of endocarditis, either on the surface or in the substance of the valve, and according to Drasche, who does not agree with some other authors, is more frequent in the mitral valve.
3. Aneurism of the cardiac wall.

The first two conditions are almost wholly of pathologic interest, but their inclusion under the term "aneurism of the heart" has somewhat confused the statistics on the subject.

It is to the third condition, or aneurism of the cardiac wall, that I shall refer in this paper. This is not of very frequent occurrence, as will be seen from the statement of Philip D. Bourland, who was able to find but two cases reported by American authors during thirteen years prior to 1904. In 1867 Pelvet collected reports of eighty-seven cases from the world's literature up to that time. In 1883 Legg made cardiac aneurism the subject of his Bradshaw lectures, in which he collected reports of ninety cases, probably including those of Pelvet. According to Warthin, more frequent reports of the condition have been made since that time, and there are now in the literature reports of possibly three hundred cases.

REPORT OF CASE.

Patient.—D. R., white, male, aged 49, was admitted to St. Joseph's Hospital, Dec. 24, 1907, to the service of Dr. W. T. Braun, to whose courtesy I am indebted for the privilege of observing the case. The patient complained of shortness of breath and dropsy.

Personal History.—Family history was negative. The patient had frequent attacks of malaria in Arkansas; also had grip, pneumonia and gonorrhea. He was kicked by a mule several years ago, losing the sight of his right eye. He had never had rheumatism and denied syphilis; had used alcoholic drinks moderately and had worked hard. About two years prior to this admission, he came to St. Joseph's Hospital complaining of shortness of breath and dropsy. According to the patient, after a prolonged stay, he returned home apparently well, and had no further trouble until a short time before his last admission.

Present Illness.—He had some pain in the chest, the location of which he was unable to define. It had not been severe, had not radiated to the side of the neck nor to the arm, and had not been associated with the fear of death. He had difficulty in getting his breath, especially on exertion, and at times the dyspnea had been so great as to require him to sleep sitting up. He had lately had some edema of the feet and ankles and had suffered with swelling and fulness of the abdomen.

Physical Examination.—The patient was a fairly well-nourished man. The skin was subicteric, the mucous membranes pale; there was a cataract in the right eye, slight edema of the feet and legs; no glandular enlargements.

Chest: There was dyspnea and slight impairment of respiratory expansion at the left base. There was a pulsating tumor in the chest wall, in the apex region. This pulsation seemed to be expansile and to correspond to the apex impulse. There was no systolic retraction in this area nor in the left back. There was some pulsation of the carotids, though not marked. The jugulars were not distended on deep inspiration and there was no diastolic collapse of these vessels. The peripheral veins were abnormally full. The abdomen was distended, but there was no distention of the abdominal veins.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Palpation: Vocal fremitus was possibly diminished over the left lower chest. The pulsating tumor was connected with the apex impulse, which was in the seventh interspace half an inch within the anterior axillary line. It was distinctly expansile. There was no thrill present nor any diastolic shock. It was rather forcible and lifted the palpating finger in all directions. The radials were palpable. The pulse was somewhat irregular in rhythm and much weaker than one would expect from the heaving character of the apex impulse. There was no perceptible irregularity of the pulses nor appreciable collapse. The lower border of the liver could be felt below the right costal border on deep inspiration. The spleen was barely palpable, and there was little tenderness in these regions.

Percussion: The note over the left lower chest posteriorly was very dull, almost flat. The area of cardiac dulness was markedly increased downward and to the left, where it did not extend beyond the limit of the apex impulse. Dulness extended also to the right of the sternum.

Abdominal Cavity.—There was a considerable quantity of free fluid.

Auscultation: Over the lungs the breath sounds were feeble and indistinct at both bases, especially posteriorly. The heart sounds at the apex were distinct and no murmurs were associated with them. At the base there was a soft, feeble murmur, heard only in the third interspace to the right of the sternum. This had very little, if any, area of transmission, and pressure with the stethoscope did not intensify it. Neither the aortic second nor the pulmonic second was accentuated. The urine and blood were not examined.

Diagnosis.—The diagnosis of fibroid myocarditis, hypertrophy and dilatation of the heart with cardiac insufficiency and aneurism of the left ventricle was made. Dr. Frank Jones saw the patient and concurred in the diagnosis.

The patient continued in the hospital, being up and down until February 8, when he expired suddenly on getting up to stool.

Autopsy.—Thirty-six hours after death; nutrition fair, weight about 150 pounds; height about 5 feet 10 inches; skin sallow. Scar 1 x 2 inches just above the right nipple. Globular enlargement over the fifth, sixth and seventh interspaces two and a half by three inches wide, two inches outside the nipple line. Abdomen distended; lower extremities edematous to the body. Rigor mortis not marked. No decomposition. Postmortem lividity in all dependent portions of the body and about the shoulders. Irregularity of the right pupil. Some of the mediastinal glands enlarged. Both pleuræ adherent. The left pleura markedly thickened; no fluid in either pleural cavity.

Pericardium: Adherent to both pleuræ. Both layers thickened. The parietal layer completely adherent to the epicardium, obliterating the pericardial cavity. The heart enormously enlarged and removed with the pericardium; removal effected with great difficulty, owing to the dense adhesions of all the structures in the mediastinum. Weight after opening with all clots removed, 1,145 grams (48.5 ounces). Blood in all the cavities. Chicken-fat clots in the auricles. The walls much hypertrophied and the cavities dilated; the left ventricle wall 1 inch, the right 5/16 inch thick. A large dilatation about the size of an orange sprang from the apex of the left ventricle anteriorly. The communication with the left ventricle marked by a well-defined fibrous ring 2 inches in diameter. The width of the swelling, at the greatest diameter, 5½ inches; depth, 3 inches. The sac formed by roughened endocardium and myocardium (which was thicker on the anterolateral surface, but only about one-fourth as thick as the ventricular wall, the posterolateral wall being apparently without myocardium, very thin), and both layers of the pericardium adherent at the apex to the pleura and a portion of the seventh rib, which was partially eroded. The cavity filled with dark clotted blood.

Pulmonary Orifice: Three and a half inches in circumference, valves thin, smooth and apparently competent. Tricuspid 7/8 inch; valves smooth and closing orifice.

Aortic Orifice: Two and three-fourth inches. Valves not sclerotic. Orifice apparently closed by valves. Slight fenestration of the middle cusp.

Mitral Orifice: Four and seven-tenth inches. Valves normal.

Heart Muscle: Fibroid changes.

Coronaries: Open in the auriculoventricular grooves. Orifices somewhat contracted. Vessels sclerotic.

Root of Aorta: A few recent atheromatous patches.

Kidneys: Enlarged; left larger than the right. Left peculiarly lobulated, containing an old scar and a small cyst. Capsules stripped with difficulty. Surface red; on cut surface, fibrous tissue increased. Cortex somewhat thickened. The organ dripped blood.

Abdomen: Peritoneum smooth except in the hepatic region, and contained a large amount of dark fluid.

Gall Bladder: Filled with a dark greenish fluid; walls thickened. Slight adhesions to surrounding structures.

Liver: Enlarged. Dark red. Surface uneven, hobnail in places. Fibrous tissue distinctly increased. The organ dripped blood. Capsule thickened, presenting the appearance of Curschmann Zuckergussleber.

Spleen: Enlarged. Cut surface dripped blood. Fibrous tissue increased. A supernumerary spleen about the size of an English walnut attached to the organ.

Microscopic Examination.—Sections of tissue were fixed in formalin, embedded in celloidin and stained with hematoxylin and eosin for microscopic study.

Heart: In some areas the terminal coronary arteries were blocked, showing typical anemic infarcts. The fibrous tissue was generally increased. In many areas the muscle cells were necrotic, which seemed to be the result of lack of nutrition. Endarteritis had caused obstruction of the arteries, which formed areas of fibrous myocarditis of, what Cowan describes as, the para-arterial type. There were also areas of fibrous overgrowth—perifascicular fibrosis—which corresponded to the same author's periarterial fibrosis.

Sections through the aneurism showed adhesive pericarditis, degeneration of the myocardium and marked overgrowth of fibrous tissue.

Pathologic Diagnosis.—Hypertrophy and dilatation of the heart, fibrous myocarditis, aneurism of the left ventricle, mediastinopericarditis, cirrhotic liver, multiple serositis, and cirrhotic kidney. The microscopic findings in the liver should have been included, as these are important in connection with mediastinopericarditis.

CAUSES AND USUAL LOCATION OF ANEURISM OF THE HEART.

According to Warthin, aneurismal dilatation of the heart wall may be congenital, due to defective development of the heart muscle, and found in infants and young children. This may occur in any part of the heart wall, but is more frequent in the membranous portion of the ventricular septum.

The acquired form may be acute or chronic. The former may be due to inflammatory process in the heart. In this case the upper part of the septum is likely to be the seat, especially if the result of acute mural endocarditis; or a dissecting aneurism may result. Myomalacia cordis may be the starting point of this form of aneurism, which usually increases rapidly in size and progresses to rupture.

The majority of these dilatations, however, are chronic and result from the weakened cardiac wall giving way under intracardial pressure. This may occur at any age, but more frequently in advanced life. Walshe, writing on the subject in 1851, says that it has hitherto been most frequently observed between the ages of 20 and 30 and in very advanced life, or in those periods of life when the agents are operative in producing the cardiac changes on which the condition depends, namely, syphilis in the young and the various heritages of old age, senility and fibrosis.

For the same reason it is much more frequent in men than in women. In a total of two hundred and eight cases collected by Hare from various authors, he found that 74 per cent. were in males and 26 per cent. in females.

Several pathologic processes have been described as giving rise to the weakening of the cardiac wall which results in aneurism.

According to Cowan, whose admirable work on the fibroses of the heart I have drawn on in the preparation of this paper, the French writers especially have suggested that pericarditis may be an occasional cause of aneurism. He describes the theory of these writers thus:

> If the two layers become adherent over a small area, the point of adhesion will be less mobile than the rest of the heart, and, with each systole, traction will be put on the part, and in course of time dilatation will result. The initial inflammation produces alterations in the superficial myocardium, and the chronic irritation resulting from the constant stress of the traction gradually leads to a fibrous condition of the aneurismal sac. . . . The objection to this theory may be stated as follows: Local pericardial adhesions are common and aneurism is rare, and the myocardium is but little involved in chronic pericarditis. I have never seen any fibrosis from such a cause even remotely resembling the fibrous sac of an aneurism. The pericardium, too, is not a fixed point, and it seems more reasonable to suppose that it and not the heart wall is dragged on by the systole of the ventricle. It is only in rare cases, where mediastinal adhesions fix the pericardial sac to the bony thorax, that such a mechanism seems possible.

I have quoted thus at length because the pathologic findings in my case apparently bear so directly on this point.

The widespread mediastinopericarditis, the firm union of the two layers of the pericardium over the aneurism, and their adhesion to the chest wall, would at first sight seem to furnish an ideal example in support of the theory of origin of aneurism from pericarditis. A more careful study of the case will, I think, show the widespread fibroid changes in the myocardium due to sclerosis and thrombosis of the terminal branches of the coronary arteries. The fact that the obliterated pericardial cavity is clearly recent over all areas except immediately over the aneurism, and the fact that mediastinitis is also more recent than the aneurism, show that pericarditis is at all events not the most important factor in the production of the aneurism.

Scars resulting from traumatism to the heart muscle and from gummata have also been shown to be rarely the cause of these aneurisms.

Most authors state that the conditions may occasionally depend on fatty degeneration independent of myocardial fibrosis. Cowan again thinks that the evidence here is not conclusive. There was no evidence of fatty degeneration present in my sections.

Undoubtedly the great bulk of the cases are due to myocardial fibrosis which results from the complete or partial obliteration of the coronary arteries—which, I think, is the cause in this case.

This explains also the most frequent seat of the lesion, which is in the apical third of the left ventricle, and most frequently here on the anterior surface.

According to Hall's statistics, the site of the aneurism in 112 cases was as follows: Left ventricle, 92 cases; right ventricle, 1 case; left auricle, 2 cases; ventricular septum (muscular part), 8 cases; ventricular septum (membranous part), 7 cases; auricular septum, 2 cases (Hare). This also coincides with the fact pointed out by Huchard that the left coronary artery, the descending branches more especially, is much more frequently abnormal than the right.

The aneurisms vary in size, from the size of an English walnut to the size of a child's head. They are usually single, but may be multiple. The opening into the cavity of the heart is usually large, but it may be small, rendering the aneurism distinctly saccular. The sac contains clotted blood, and the walls are composed of endocardium, myocardium and both layers of the pericardium, which is nearly always densely adherent. It may erode the chest wall, as this one had partially done.

SIGNS AND SYMPTOMS.

There are no distinctive symptoms of cardiac aneurism, although, as Walshe says, almost every known symptom of cardiac disease has been present in these cases. Physical signs are usually equally lacking. It is only when the aneurism is large and favorably located that an antemortem diagnosis is possible. It was the expansile tumor clearly connected with the apex and its heaving character associated with a very weak pulse which enabled us to arrive at a diagnosis in this case. How seldom the diagnosis is made may be seen from the statement of Hall, who says that an antemortem diagnosis was made only once in seventy-six cases.

The signs and symptoms present are almost always due to the associated pathologic conditions, chiefly to chronic myocarditis, which was prominent in this case. These symptoms may, however, be any one of those characteristic of the three clinical groups of myocardial diseases, namely, those in which sudden death may occur without previous indications of heart trouble, those in which there is arrhythmia, cardiac asthenia, etc., and those with general arteriosclerosis and hypertrophy and dilatation of the heart.

ASSOCIATED LESIONS.

This case illustrates so well those cases described by Pick as pericarditis, with pseudo-cirrhosis of the liver and known under a variety of names, such as mediastinopericarditis, multiple or polyserositis, Concato's disease, perivisceritis, etc., that I wish to speak concerning the diagnosis of this feature of this, to me, very interesting case.

These cases of mediastinopericarditis may be divided into three groups clinically: 1. The silent, without signs or symptoms. 2. Those presenting all the features of cardiac disease. 3. Those in which the main features are hepatic.

In this case, while the physical signs of adherent pericardium were not prominent, the evidence of thickened pleura, the fixation of the apex beat and the frequency with which concretio pericardii is known to occur with cardiac aneurism, together with the hypertrophied and dilated heart, the enlarged and tender liver, and especially the marked ascites, out of proportion to the amount of edema present, should have led to the recognition of this condition which was found at autopsy.

TERMINATION.

In rare cases the sac has been obliterated by laminated clots. It is surprising how few of these chronic cases terminate in rupture of sac. Legg found this termination in only 7.7 per cent. of ninety cases. By far the most frequent termination is from cardiac insufficiency from myocarditis, as was the mode of death in this case.

Porter Building.

DISCUSSION.

Dr. Robert Preble, Chicago, (exhibiting a boy with a cardiac aneurism): This patient was shot a few months ago, the bullet entering to the left side of the sternum and at the time giving no special cardiac disturbances. Later the patient developed a characteristic aneurism at the upper and outer portion of the left ventricle.

Dr. James B. Herrick, Chicago: Dr McElroy's paper recalled the case, seen by me five or six years ago, of a colored man, about 30 years old. At autopsy, in addition to some valvular trouble, extensive adhesions and a mediastinopericarditis were found, as well as a chronic fibrous myocarditis. In one of the areas of cardiac softening, near the tip of the left ventricle, a rupture of the myocardium, evidently preceded by an aneurismal dilatation, had occurred; this rupture, instead of occurring directly into the open pericardium, occurred in a weakened spot between the two adherent surfaces of the pericardium that were apparently dissected apart by the blood. This little sac of pericardium had, at the time of death, reached the size of a goose's egg. The interesting clinical feature in this case was that, high up in the epigastrium beneath the xiphoid cartilage, was a visible, palpable, pulsating tumor, and over this could be heard a systolic bruit. The case presented many perplexing clinical features which made the diagnosis somewhat difficult. It was only at autopsy that the real nature of the trouble was learned; then the little sac communicating with the left ventricle was clearly disclosed.

Dr. William J. Butler, Chicago: I had a patient, a boy, 10 years of age, who had primarily a congenital stenosis of the pulmonary arterial tract. He acquired a septic endocarditis involving the pulmonary orifice. In addition to this, which had been diagnosed clinically, there was found at autopsy an aneurism, the size of a walnut, of the right ventricular wall. It had apparently resulted both from an involvement of the mural endocardium and underlying myocardium in the inflammatory changes, more or less fatty degeneration of the myocardium in general and the increased pressure in right ventricle.

Dr. James B. McElroy, Memphis: The diagnosis of these conditions is possible only when the aneurism is favorably located. A most favorable and valuable diagnostic point is the heaving character, the apex-impulse and expansile character, which is only possible when the aneurism is favorably located; then and only then, in my judgment, is a diagnosis possible. In contrast to ninety cases diagnosed postmortem, I have met but one case that was diagnosed antemortem.

CHRONIC PANCREATITIS.*

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Perhaps the most important advances in abdominal surgery of recent years have been those made toward the elimination of digestive disorders, that is, the recognition that by surgery we are able to attack successfully not only the acute and obvious lesions, such as acute appendicitis or intestinal obstruction, but also those dependent on more obscure lesions of the stomach, biliary system and pancreas.

As the importance of the pancreas in the process of digestion was recognized by pathologists long after painstaking investigations had served to bring us to an understanding of gastric and intestinal physiology, so also the surgery of pancreatic conditions has been considerably behind that of the other abdominal viscera.

This is due to a number of reasons. The pancreas is deeply situated and almost inaccessible for direct surgical interference. Its functions being but little understood, their derangements naturally were not recognized, and those finer tests in physiology were as yet unknown.

The work of Fitz brought the attention of the profession to acute pancreatitis; but it was many years later that the chronic form of inflammation of this organ was clinically recognized, even though it had been pathologically studied by many observers.

PATHOLOGY AND ETIOLOGY.

As to pathology, chronic pancreatitis may be subdivided into the interlobular and the interacinar forms. For the purpose of the surgeon it is sufficient to state that the most frequent form is the interlobular, and that it is this form with which we have to deal in the pancreatitis complicating disease of the biliary passages. The interacinar form is due to systemic conditions not yet understood and is therefore correspondingly unfavorable to direct or local attack.

The etiology of chronic pancreatitis is of the utmost importance. There is no doubt that its most frequent cause is some interference with the free discharge of the pancreatic secretion, either associated or unassociated with an ascending infection. As by far the most common cause of such obstruction is the lodgment of a gallstone in the ampulla of Vater, or other part of the common duct, the frequent association of the conditions is at once explained. The occurrence under such circumstances of a pancreatitis, either acute or chronic, is not inevitable, but it is very common. The damming back of the pancreatic secretion with dilatation of the ducts and interference with function is in itself sufficient to cause a chronic inflammation of the gland. Yet in most instances we have no doubt to deal also with an added infection ascending the duct of Wirsung and joining its action to the other cause of inflammation. If the infection be virulent, acute pancreatitis may supervene—if of diminished virulence, we have the chronic form of pancreatitis as a result.

When the duct of Santorini is so situated that it can take the place of the duct of Wirsung, the main duct of the pancreas, as an avenue of discharge, pressure on the duct of Wirsung does not bring about such dire results, yet an infection at the same time active may nullify this action and lead to a pancreatitis even in the absence of a marked stasis in the secreting ducts.

The feature of infection would account for those cases of chronic pancreatitis which we find in those cases of gallstone disease in which the stone does not actually occlude the common duct. The very presence of the stones presupposes an infection of the biliary passages at one time or another, and when this is present there is little doubt that the whole biliary tract is involved. In a certain proportion of these cases the pancreatic duct would, of course, become infected also, and as the infection causing gallstones is known to be a subacute one—by some organism of diminished virulence—we have in the condition causing the gallstones one which also will cause a pancreatitis.

Indeed, most of my cases of chronic pancreatitis have, contrary to the general rule, occurred in patients in whom no gallstones were present. Yet in almost every case I could discern either the presence of an infection as shown by the bile, the congestion and an inflammation of the gall bladder, or the fact that there had been some cholecystitis, as evidenced in a shrunken and distorted gall bladder, or the presence of pericholecystic adhesions.

So while duct obstruction plus infection furnishes the most likely cause of chronic pancreatitis, either factor alone is sufficient to cause this condition. The rôle of infection alone is also demonstrable in those cases in which a chronic pancreatitis follows on a long-standing gastroduodenal catarrh. Several cases have come under my notice and have been reported by other surgeons. I have in mind particularly one case in which this was so, and in which the occurrence of the pancreatitis was directly traceable to a chronic gastroenteritis. It is important in these cases to bear in mind the fact that the supposed gastroenteritis thought to precede the pancreatitis may in reality have been its first manifestation instead of its precursor.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Blocking of the pancreatic ducts by calculi in them or by new growths of the common duct or the ampulla of Vater may be mentioned as among the rarer causes of chronic pancreatitis.

In some of my operations I have noted the association of a chronic pancreatitis with cirrhotic conditions of the liver, and in a number of cases which have come to autopsy from the medical wards of the German Hospital the two conditions have existed together.

Many other causes of chronic pancreatitis have been claimed. At the German Hospital it has been found at autopsy in cases of cardiorenal disease, tuberculosis, pernicious anemia, syphilis and other conditions.

There is no doubt that were microscopic examinations made of the pancreas many instances of beginning change would be found in cases where the organ feels and looks entirely normal. It is a well-known fact among surgeons that in quite a few instances in which in life the pancreas is found to be markedly indurated and congested, at autopsy, held some hours after death, the organ presents no macroscopic evidence of disease and is entirely normal to the touch.

The diagnosis of chronic pancreatitis in life was thought some years ago to be impossible, except in those cases in which the metabolism was so greatly disturbed that evidences of this were most markedly shown in both urine and feces. As surgeons have had opportunity of studying the organ on the living subject at operation, we have come to associate certain clinical symptoms with a condition of chronic pancreatic disease, and it may even be asserted that a somewhat definite syndrome has been established. In spite of this, I can not agree with Mayo Robson when he characterizes it as being easy to diagnosticate. At the present time by far the majority of cases are unrecognized except at the operation or necropsy.

SYMPTOMATOLOGY OF THE DISEASE

In considering the symptomatology we must remember that the symptoms are caused in three ways and may thus be divided into three groups:

1. Those which depend on the local lesion, i. e., the local manifestations of disease in the upper abdomen.
2. Those which come as a result of the interference with pancreatic secretion, i. e., a form of indigestion.
3. Those depending on interference with the internal secretion of the pancreas—shown principally in the occurrence of diabetes and in the pancreatic reaction in the urine.

1. *Symptoms Depending on a Local Lesion.*—The local symptoms are essentially unimportant as compared to the systemic ones. The patient will at times complain of some epigastric pain, occasionally localized somewhat to either side of the median line. Tenderness in this locality may also be present. The presence of a tumor has been described by some, but I have never been able to satisfy myself of the presence of this sign in chronic pancreatitis.

A general symptom, dependent often on local mechanical interference, is jaundice. We would naturally expect to find this in those cases in which the pancreatitis is associated with gallstone disease, but it occurs also when this is not the case. This in some instances is due to the partial obstruction of the common duct by swelling of the head of the pancreas and would be particularly liable to occur when the duct runs within the substance of the pancreas, as it does in about two-thirds of all cases. Occasionally the jaundice appears to have been a coincidence, i. e., to have been caused by cholangitis resulting from the gastroduodenal catarrh responsible for the onset of the pancreatic lesion.

Mayo Robson has lately offered the suggestion that many instances of catarrhal jaundice, especially of the chronic form, are due to a pancreatic lesion, i. e., that the engorged pancreas by pressure on the choledochus is responsible for the jaundice. This contention he has supported by the report of a number of cases in which the pancreatic disease was discovered by other tests; operation in all cases brought a permanent cure. I am not prepared to admit that all cases of catarrhal jaundice are pancreatic in origin. But the possibility should be borne in mind when we have to deal with forms of the disease which are resistant to the ordinary medical and dietetic treatment.

At times the damming back of the bile will give rise to distention of the gall bladder, which organ may even become palpable. In these instances the symptom is more apt to confuse than to help us, as it would lead us to believe the condition to be primarily biliary. This, however, would not be of such moment, as surgical interference is indicated in either case.

The local signs, as I have stated, are in themselves not significant and gain importance only when associated with other signs of pancreatic trouble. The jaundice, of course, would give us a clue, but as often as not it, as well as the local signs, leads us to suspect disease of the bile ducts or cholelithiasis, when the lesion is in reality pancreatic.

2. *Symptoms Due to Interference with Pancreatic Symptoms.*—The digestive symptoms due to interference with the pancreatic secretion are of the utmost importance. The patients often have anorexia, fulness in the epigastrium and eructations of gas. Associated with these we often have diarrhea of an intermittent or continuous form, in which the stools are large and often grayish in color and contain an excess of free fat.

This combination of such an indigestion with the local signs of a lesion in the upper abdomen should lead us to suspect a pancreatic condition at once.

Occasionally we become aware of the presence of a chronic pancreatitis by an acute exacerbation. Several instances have come to my notice in which this was so, with history about as follows: The patient, previously in fairly good health, was taken ill with symptoms of a lesion in the upper abdomen; pain here was preceded by a chill and followed by marked prostration and cyanosis. These in turn were succeeded by fever with the development of a dulness in the upper left abdomen and lower part of the chest. The Cammidge tests, A and B, were both positive.

It is true that many other portions of the gastro-intestinal tract when diseased give us symptoms of indigestion, but each lesion will be found on close study to give rise to a more or less characteristic form. Thus in chronic gastric ulcer we have pain after eating, vomiting, hyperacidity and a tendency to constipation. The stools show us no excess of fats and undigested muscle fiber as in pancreatitis, but often give us signs of hemorrhage—such as the occult blood test. The associated epigastric signs are also often more severe, and inflation of the stomach may at times show us a considerable degree of dilatation. Jaundice also is not found.

Chronic gastroenteritis or colitis may give us persistent or intermittent diarrhea. Yet the localizing signs are all to be found in the lower abdominal segment. The stools are often watery and they show us no evidence of impaired digestion of fats.

In chronic appendicitis, constipation and not diarrhea is the rule. The indigestion is usually of a less marked grade than in either pancreatic or gastric lesions and does not exercise such a deteriorating effect on the patient's health in general. Then again we often find a history of acute attacks of appendicitis, or else of chronic soreness and tenderness in the right iliac fossa. The stools also show nothing characteristic.

The emaciation and weakening which the indigestion of pancreatic disease brings with it is insidious in onset, but in late cases most marked and intractable and furnishes another symptom, if it may be so called. But when the disease has progressed to this stage the diagnosis as a rule interests us more as a curiosity preceding autopsy than as an indication for treatment.

In spite of the apparent distinctness of the symptomatology of chronic pancreatitis its differentiation is not always easy. Its onset is often most insidious and one or another point in the symptom-complex is not present. Jaundice may not occur; the local signs may be practically absent. The examination of the feces is at times inconclusive and often demands skill in examination not easy to obtain.

Then again in those cases in which the pancreatitis is associated with gallstone disease, the latter in almost all cases overshadows the often more dangerous pancreatic condition. And so well known are the symptoms of disease of the gall ducts compared to those of the pancreas that physicians are prone to consider the symptoms of a chronic pancreatitis as being the aberrant ones of cholelithiasis, even when the distinction is comparatively plain.

3. *Symptoms Due to Interference with the Internal Secretion.*—The third group of symptoms—those depending on disorders of metabolism, due to interference with the internal secretion of the pancreas—are really the most distinctive of all and give us the most definite basis for a diagnosis of pancreatic disease.

Diabetes has been long recognized as being often associated with pancreatic disease. Unfortunately, when this condition has supervened, the pancreatic lesion is often too far advanced for any marked improvement by any method of treatment, either medical or surgical. In some cases it must be remembered that the glycosuria is not due to a true diabetes resulting from interference with the internal secretion of the pancreas, but is due to the absence in the alimentary canal of its secreted ferments, and in some instances may be a pure alimentary glycosuria associated with pancreatic disease. It may be noted here that the interacinar form of chronic pancreatitis, affecting as it does the islands of Langerhans rather than the interlobular form, is more apt to give us an early and intractable diabetes.

The reaction discovered by Mr. Cammidge I believe to be an aid in the diagnosis of pancreatic disease. It is true that the originator and his collaborators have been able to get more positive results from its use than others, but it has been found of value in many cases. I am inclined to regard it for the present, in the hands of most investigators and laboratory workers at least, as a fairly constant sign of pancreatic disease, rather than of great value in the differential diagnosis.

It will be seen, then, that the majority of cases of chronic pancreatitis, either associated or unassociated with gallstone disease, may be diagnosed with a fair amount of certainty if sufficient care be taken. They are cases in which the history must be most carefully taken and the patient's memory for details at times taxed to the utmost. In conjunction with this the study of the urine and feces should be undertaken by one who is an expert. The results in this line of work by the unpracticed are more likely to be misleading and confusing than of any real aid to the diagnostician.

TREATMENT.

Granted, then, that the diagnosis of chronic pancreatitis has been made, or that chronic pancreatitis is discovered on the operating table, what should be our line of treatment?

It can not be denied that the efforts to benefit patients suffering from chronic pancreatitis by the use of pancreatic extracts, derivatives or substitutes have been futile in all but a few instances. In these the results have at times been remarkable, but the treatment is, as a rule, irksome, especially when a strict diet must be followed. Not only this but as no effort is really made to restore the pancreas itself to function, its action by its internal secretion is lost, and in spite of the substitution of its ferments metabolic disturbances generally increase.

Medical treatment also is entirely unable to really reach and remove the cause of the pancreatic lesion—to give the pancreas a chance to functionate again the normal way. Surgery in many of these instances will enable us to attain a radical cure. It does this in two ways:

1. By removing the underlying cause of the pancreatitis when this is to be found in an obstructed choledochus.
2. By enabling us to overcome the infection in the biliary and pancreatic ducts.

When the pancreatitis is secondary to gallstone disease, as is the case in so many instances, removal of the calculi, together with free drainage of the bile ducts, in most cases leads to a complete subsidence of pancreatic symptoms. The obstruction being removed, the pancreatic ducts have an opportunity of again emptying themselves and the irritating bile is no longer forced into them by back-flow. The coexisting infection of the biliary passages is cured or rendered harmless by the drainage instituted at the time of operation, and thus the pancreas is enabled to take its place as the main factor in the whole cycle of digestion. The benefit to the chronic pancreatitis in many cases of gallstone disease doubtless accounts for the wonderful restoration to complete health of those patients who are found to be weakened and emaciated to a degree not explainable by the mere biliary condition.

When the gall ducts are found clear, and the infection which has given rise to the chronic pancreatitis has subsided, drainage of the organ by way of the biliary passages nevertheless exerts a remarkable curative effect on the lesion. This is especially true when the pancreatic condition is diagnosed and the patient operated on while it is in its incipiency, before the so-called catarrhal pancreatitis has really become a chronic interstitial interacinar lesion.

The choice of operation in dealing with chronic pancreatitis resolves itself into a decision between simple drainage of the biliary ducts or a cholecystenterostomy. I have used both methods, and each has its advantages in special cases. When gallstones are found in conjunction with pancreatic disease, or when the latter is found during a gallstone operation, I consider the drainage indicated by the biliary condition to be sufficient. Thus, if we have stones in the choledochus, a choledochostomy should be performed in the usual manner. The operation of cholecystostomy is to be preferred when we find a pancreatitis the result of a still active infection of the bile ducts or when the pancreatitis is discovered in its incipient or catarrhal stage.

Cholecystenterostomy is indicated when the pancreatic condition is well advanced and we wish to procure permanent drainage. This operation is not my choice when much biliary infection is present, as I always prefer surface drainage when marked infection is manifest. This operation also I consider to be more grave than ordinary cholecystostomy, and I have found it to be attended by a higher mortality in my own operative work. Especially does this become true when we are dealing with a gall bladder not well suited for the procedure.

The indications for surgical interference in chronic pancreatitis I consider to be found in the diagnosis itself, unless some circumstance prohibits it. Thus, I would not operate in the presence of marked organic disease of other organs, nor would I be prone to advise operation in patients who are *in extremis*.

Moderate anemia and glycosuria are not contraindications to operation in pancreatic cases, as both are often greatly benefited when the metabolism of the body is restored to its normal status. My results in chronic pancreatitis have been such as to encourage me to further operative work in this direction. The immediate mortality is still quite high, due in large part to the extremely weakened condition of the patients, the grave associated conditions, and especially the tendency in those patients in whom we find both jaundice and a pancreatic lesion, to uncontrollable hemorrhage.

The details of the operative technic are not matters of extreme difficulty, and improvement in results must come from earlier diagnosis. In gallstone cases the patients should be operated on before chronic pancreatitis supervenes, and other cases of pancreatitis unassociated with lesions of the biliary passages should be recognized sooner than they now are.

PANCREATITIS IN ITS RELATION TO GALLSTONE DISEASE*

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The pancreas is the most sequestered organ in the body and has only recently yielded up, in part, the secrets of its incorrigible inflammations. The clinical knowledge of its pathology has been obtained in operations on the gall tract. Its natural history has been unraveled and, while in the past its recognition has been uncertain, it can now be identified during life in a considerable number of instances, both in its acute and chronic form. It is important in all operations on the upper abdomen that the surgeon should examine with detailed care the head of the pancreas, not only to determine the existence of pathologic changes, when present, but also to appreciate the 'feel' of the normal gland. The fact that the Mayos found the pancreas to be involved in 6 per cent. of all the operations on the gall tracts is sufficient indication of its importance, as well as of the causal relation between gallstones and diseases of this neighboring gland. They further found 81 per cent. of pancreatic diseases to be the result of, or coincident with, gallstones. Egdahl regards biliary lithiasis the most frequent single cause. Osler says that forty-five out of one hundred and five cases were associated with gallstones. Robson found pancreatic implication in 60 per cent. of cases in which gallstones were in the common duct. Out of 118 cases Quenu and Duval in 46 cases found stones in the gall bladder or cystic duct, in 20 cases in the common duct, in 8 cases in the ampulla of Vater, in 2 cases in the duodenum, near the ampulla, in 28 cases in the entire tract, in 10 cases undetermined, and in 3 cases in the stools. Mayo observed pancreatitis to be four times as frequent when the stones are in the ducts as when they exist in the gall bladder (18.6 to 4.45). The head of the gland is involved seven times as often as the entire gland (124 to 17). Nearly two-thirds of common ducts are surrounded by the head of the pancreas, which, if swollen, causes obstructive jaundice. In the other one-third an independent opening of the duct of Santorini may act as a safety valve.

Opie discovered the rôle which a small (pea-sized) stone lodging in the ampulla of Vater plays in converting the common and pancreatic ducts into a through channel, allowing bile to be injected directly into the pancreas and thus produce the acute type of infective and hemorrhagic pancreatitis.

Robson has established on an indefensible basis the relationship of gallstones in the common duct and chronic interstitial pancreatitis. It is probable that stones simply render the organ more vulnerable to bacterial invasion.

Flexner asserts that modified bile, with diminished salts and increase in colloid, sets up chronic pancreatitis. Fresh and unaltered bile gaining entrance to the pancreas begets acute changes. If an impacted gallstone does not cause bile to enter the pancreas direct, simple obstruction and retention of the pancreatic secretions, if infected, will cause inflammation.

Desjardins thinks that micro-organisms find their way through the duct of Santorini into the Wirsungian duct and back into the duodenum, thus causing infection in the "triangle of inflammation" when there is obstruction. This could not occur in one-third of the cases for in 21 per cent. the duct of Santorini is impervious and in 10 per cent. it does not communicate with the duct of Wirsung.

Regurgitation of fatty materials from the duodenum into the duct where it had been dilated from the previous passage of a gallstone has been suggested by Hess as a causative factor.

Robson operated in fifty-two cases of the chronic interstitial type which were due to gallstones and in forty-six cases in which there were no gallstones. Of this latter group it has been said that gastrointestinal disorders caused about 30 per cent., of which one-half are in alcoholics. Among other causes which have been mentioned are typhoid fever, pyemia, malaria, mumps, appendicitis, trauma, embolism, gastric or duodenal ulcer.

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The acute type is so sudden and severe in its onset, attended with such agonizing pain and followed by such extreme prostration that it has been denominated "the pancreatic drama." The pulse is rapid with rise of temperature. Vomiting occurs at once and is persistent. First, the stomach contents are regurgitated, and then the intestinal, simulating acute obstruction, although gas is passed. The lips are livid, the extremities cold, the entire body of a cyanotic leaden hue. Dyspnea is often present and constant splitting backache has been observed (Erdman). The pain is excruciating, paroxysmal and deep seated and is uncontrollable with ordinary doses of morphia. Collapse is extreme. Tenderness is diffuse, and the whole picture is that of "the acute abdomen." There is some epigastric induration in the first twenty-four hours, but the consecutive distention soon obliterates it. There is no glycosuria. Erdman and Thayer found no sugar in five cases each. Patients die in collapse in forty-eight to seventy-two hours. This type occurs oftenest at about the age of 50, in fleshy subjects addicted to alcohol.

Acute peritonitis from perforation of viscera is closely simulated. The actual diagnosis is very inexact. Of fifty cases, twelve were diagnosed as perforating gastric ulcer; twelve as intestinal obstruction; four as acute peritonitis; two as appendicitis; two as cholecystitis; one as strangulated hernia; one as angina pectoris; in eleven no diagnosis was made and in the remaining five the diagnosis of pancreatitis was correctly assumed. Fortunately the operative indication is equally imperative in most of the conditions which appear to be in evidence. Owing to the extreme fatality the operation is urgently demanded. Ebner says that out of ninety-six patients 90 per cent. who were not operated on died, and of those operated on 52.8 per cent. survived. Körte saved six patients with fat necrosis.

The laboratory examinations of the urine and feces are so laborious and consume so much precious time in the acute cases and are really so inconclusive that it does not seem wise to delay exploration to have them made.

The distinctive tissue change is fat necrosis. It results (when there is obstruction) from penetration, into the tissues adjacent, of pancreatic juice and certain ferments, which split the fat into its component fatty acid and glycerin. The latter is absorbed and the former unites with the lime-salts to form yellowish-white nonelevated opaque spots about the size of a millet-seed that look like droplets of candle grease. Fat necrosis points as unerringly to the pancreas as jaundice does to the liver. There is also marked exudation. The colon and omentum are gorged with fluid. In the omentum there have been observed clumps as large as sausages (Brugsch and König).

In the subacute or suppurative form the onset is less sudden and severe. Chill, fever and leucocytosis are present and an epigastric tumor gradually develops. Although constipation is the rule, fatty stools and occasionally fragments of necrotic tissue may appear. A less violent course is pursued, sometimes ending in resolution. These cases frequently terminate in suppuration, which burrows in a bizarre way. Operation is not so immediately necessary in the subacute cases unless suppuration demands evacuation.

Chronic pancreatitis occurs in individuals with previous painful epigastric attacks which often declare their gallstone origin. There is midline tenderness, slight fulness, pain referred to the left side, to the kidney and left scapular region. There is extreme loss of weight which, with the pigmentation of the skin, frequently gives rise to the inference of malignant disease. Jaundice is commonly present and may exist for many months. Nearly all cases of so-called catarrhal jaundice are in reality pancreatic catarrh or actual chronic pancreatitis. The intense irritation of the skin in jaundice is indicative of pancreatic and not biliary origin. The common duct is surrounded in the lower third of its course by the head of the pancreas in 62 per cent., which when swollen produces obstructive jaundice. In 38 per cent. the duct runs behind the pancreas and, although it might be enlarged, no pressure jaundice will result.

Uncomplicated gallstones are most easily identified by their early history. Typical attacks, without jaundice, then attacks followed by jaundice and attended with ague-like symptoms with no tumor, betoken the lodgment of stone in the choledochus. In chronic pancreatitis induration is often made out, and the tenderness is central rather than under the right arch. Gallstones that do not encroach on the common duct do not give the pancreatic urinary reaction of Cammidge and the feces are alkaline. In pancreatitis the motions contain large quantities of undigested food and are greasy because of the unsaponified fat. They are light in color and bulky.

In chronic pancreatitis Schmidt's bag test is said to show the nuclei undigested in the meat fibers of a small cube which is sewn in a silk bag that is taken into the stomach and recovered from the stool.

In many instances the head of the pancreas has felt like cancer at the time of operation and has been so diagnosed, but the patients have really been cured by removal of the stones and drainage, showing the induration to have been an interstitial thickening of the pancreas. Still it is quite possible in many instances to detect the late cases of cancer without operation. The condition lacks the acute onset, pain and fever. The gall bladder rapidly becomes distended. The feces quickly turn white. There is hematemesis and melena and, lastly, the enlargement of the cervical glands, ascites and edema.

Degenerative changes in the pancreas may destroy its control of the metabolism of carbohydrates and produce diabetes. It rarely occurs in the interlobular form of pancreatitis, but almost uniformly in the interacinar form when the greater part of the gland is replaced by scar tissue which crowds out the cell-islets of Langerhans.

Sugar was found by Cammidge in 6 per cent. of Robson's sixty-five cases of common duct stone.

While diabetes is not a common result of gallstone pancreatitis, it may happen that delayed operation will permit an ordinary interlobular type to advance into the interacinar form with its tell-tale glycosuria.

The operative indication for the acute cases is unmistakable. Incision of the acutely inflamed pancreas with drainage often suffices. The peritoneum should also be drained when there is that peculiar beef-broth serum present. If the patient's condition permits the complicating gallstones should be rapidly removed and drainage instituted.

In the chronic cases drainage of the bile passages, while indirect, is most effective. It is an anomalous illustration of a palliative operation being also a curative one. A thorough search with finger and probe after the removal of the obvious stones is essential to insure none being left. It is especially difficult to detect them in the pancreatic portion of the duct The common duct is best drained temporarily with a catheter introduced up to the junction Permanent drainage is to be established by cholecystenterostomy if there are no gallstones Sidney Phillips observed a disagreeable diarrhea when the gall bladder was attached to the colon, but in two instances I have seen no unpleasant symptoms The duodenum, instead of the colon, is undoubtedly more desirable, as it delivers the bile into its natural channel where it is physiologically needed

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DISCUSSION

ON PAPERS OF DRS DEAVER AND HAGGARD

Dr Arthur Dean Bevan, Chicago In the development of this new surgery of the pancreas members of this Association have played the *most active part* I refer to the memorable work on pancreatic cysts by the late Nicholas Senn, the splendid work on acute pancreatitis by Fitz and the pathology of the pancreas by Opie

In connection with injuries of the pancreas, two things have impressed me as being of great importance First, the diagnosis can not as a rule, be made without an exploratory laparotomy which is best made under gas anesthesia Second, we must provide for most thorough drainage and also for *thorough protection of the abdominal wall against the di*gestive action of the pancreatic juice The latter, I think, is best done by oxid of zinc paste

In acute pancreatitis the diagnosis, although difficult is by no means impossible In a general way those cases which have a clinical picture midway between ileus and perforation, with a definite line of tenderness in the pancreatic region, and some swelling, are very suggestive of acute pancreatitis but the diagnosis must be made by exploratory operation under gas anesthesia It is not always necessary to interfere in these cases In three of my cases the operation was purely exploratory A definite diagnosis of acute pancreatitis was made There was no definite swelling nor any evidence of suppuration in the region of the pancreas, no gallstones to remove, and I simply made the operations exploratory, with immediate closure of the wounds and all three patients went on to recovery On the other hand, where there are gallstones they should be removed, and if there is swelling and evidence of hemorrhage and suppuration drainage should be instituted

A most interesting group of cases are those in which it is impossible to differentiate between carcinoma and chronic interstitial pancreatitis I think that here the rule should be *to take the* optimistic side *Three times in one winter I made* the brilliant diagnosis in my service at the Presbyterian Hospital, after exploratory operation, of carcinoma of the pancreas and very gravely told the relatives of the diagnosis We sent the patients home to die Those three patients went on to perfect and complete recovery after cholecystenterostomy That has been a most instructive thing to me, and now I take the optimistic side in these cases and do a cholecystenterostomy with the hope that the case may be one of chronic interstitial pancreatitis and not carcinoma

Dr Carl Beck, Chicago The coincidence of pancreatitis and gallstones is by no means rare or exceptional The numerous reports of the coexistence of these two pathologic conditions, the large number of experiments on animals, and the clinical observations prove the truth of these two statements The reason why of late we understand a little more about these conditions is that we now make our diagnosis of pathologic conditions at the operating table and not at the postmortem The erroneous views of former times were due to the examination of this organ postmortem The tissues of no other organs undergo such rapid changes as do those of the gall bladder and pancreas The diagnosis of diseases of the pancreas is difficult and we hailed the Cammidge test with enthusiasm as a great help, but there is only one means of making a definite diagnosis, and that is by exploratory operation

At the present time the position of the surgeon relative to this question of pancreatitis and cholelithiasis can be summed up in four points First knowing the great danger of acute pancreatitis, leading to abscess or fat necrosis, every time acute pancreatitis is suspected an exploration must be made, even during the attack The dangers of hemorrhage and perforation are insignificant compared with the danger of acute pancreatitis Second in all cases of gall bladder operation an examination of the pancreatic field should be made, and if a threatening abscess or necrosis is found this part should be drained through the foramen of Winslow or gastrohepatic omentum backward according to the nature of the case and the findings Third in all cases of acute pancreatitis and fat necrosis the gall tracts must be examined carefully for stone on account of the common existence of gallstones with pancreatitis Fourth there are no other means at present of saving the patient's life except thorough drainage forward toward the abdominal wall and backward

Dr William L Rodman, *Philadelphia* It has been *made* very clear to us in these admirable papers that it is practically impossible by the clinical symptoms and signs always to diagnose diseases of the stomach and that even after a laparotomy it is not always possible to differentiate between benign and malignant disease We have all accepted these conclusions so far as the stomach is concerned, and we have practically agreed in view of this difficulty of making a diagnosis between the several affections of the stomach that it *is better to err on the safe side in our practice, and do a more* radical procedure when it can be done without materially increasing the risk It seems that what is true of the stomach and gall bladder and ducts is just as true, and in a way truer, of the pancreas I thoroughly agree that it is simply impossible to diagnose at all times either acute subacute or chronic pancreatitis In one case after exploring the pancreas and being positively certain that I was dealing with malignant disease of the stomach, I closed the abdomen, after establishing drainage of the gall bladder, and found *a tumor the size of a fist* at the head of the pancreas The patient's jaundice soon passed away, he rapidly gained in weight, and now, three years after the operation, is perfectly well

Chronic pancreatitis is a more common disease than we have thought it was hitherto In the great number of operations that are being done at the present time on the gall bladder and ducts, we should take care lest too radical surgery be done in the way of removing the gall bladder, unless it is absolutely necessary, because the only successful way of treating chronic pancreatitis is by drainage If cholecystectomy be done where cholecystotomy would have answered all indications, and the patient subsequently develops marked pancreatitis, what is to be done? Of course, we can, as Robson does, drain the common duct, which acts as a gall bladder, but this is a far more radical procedure than draining the gall bladder itself Therefore, it seems to me that the lesson to be drawn from these papers and discussions is that we should practice more conservative treatment of the gall bladder in doubtful or borderline cases that come to us Dr Deaver has drawn particular attention to the fact that the two conditions are often associated and that they can not be differentiated This is just what we ought to understand, when we *reflect on the anatomy of the pancreas, and the fact* that these stones often coexist in the pancreas and the gall ducts A stone in the common duct will cause retrojection of bile into the pancreatic duct or the duct of Wirsung, and pancreatitis may follow In a recent case of acute pancreatitis the symptoms markedly simulated those of acute intestinal obstruction

Dr William H Wathen, Louisville, Ky It is almost impossible to make a positive diagnosis of acute pancreatitis and differentiate it from some disease of the right hypochondriac region Until we have made an exploration we may resort to an analysis of the urine and not find pancreatic disease. We may find pancreatic disease where there is a reasonably good digestion of the products of food by these secretions, but we do know from what we have learned that the symptoms are sufficiently significant in every case to indicate an exploration; that by this exploration we can, as a rule, make a sufficiently accurate diagnosis to enable us to recognize these cases, and that the treatment is nearly always complete drainage. The practice of removing these structures is now rapidly becoming obsolete. Drainage and the removal of any obstruction in the duct are indicated. Hence the failure to make a perfect diagnosis of disease of one of these structures is not of much importance, provided that we know that the exploration is necessary, and that we institute the proper treatment.

Dr. John B. Deaver, Philadelphia: Doctors must study their cases of indigestion more thoroughly. They must not be satisfied with diet and drugs in many of these cases. I called attention particularly to the class of acute pancreatitis, and especially the acute exacerbations occurring in the presence of chronic pancreatitis in which no drug is doing more harm than morphin given indiscriminately. Too many doctors when called to see a patient with pain in the abdomen are apt to resort too quickly to the hypodermic syringe. A physician might as well give his patient hydrocyanic acid. A prominent citizen of Philadelphia recently died of pancreatitis because he had morphin shoveled into him. That is the harmful effect of morphin.

Dr. W. D. Haggard, Nashville, Tenn.: One of the diagnostic symptoms of acute pancreatitis is that you can hardly give enough morphin to stop the vomiting, backache and pain. It is one condition in which morphin does not absolutely mask the symptoms. I urge the withholding of the drug and the wisdom and importance of operating early in most acute abdominal cases. When the abdomen is opened and fat necrosis is found, it will invariably point to the presence of pancreatitis.

MAY NOT DRINKING WATER, WHEN POLLUTED WITH SEWAGE, BE ONE MEDIUM OF DISSEMINATION OF THE TUBERCLE BACILLUS?

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The tubercle bacillus may be introduced into the animal economy in various ways. The usual portals of entry are the mouth, nose, or an abraded surface. In cows it may obtain entrance through a milk duct or by way of the vagina. That it sometimes enters the fetus *in utero* through the medium of the circulation must be admitted, notwithstanding the opinion of many physicians to the contrary. Veterinarians tell us that it is not uncommon for cows to drop infected calves. This, of course, is entirely apart from a so-called inherited predisposition to tuberculosis, which may be either physiologic, consisting of such a condition of the tissues, and more especially of the mucous membranes, as will afford a receptive and favorable environment for the growth of the organism; or anatomic, depending on a conformation of the thorax, such as the deformities known as chicken-breast, winged chest or hollow chest, which interfere with the full and healthy development of the lungs. It may, of course, be introduced artificially by inoculation, as demonstrated on the lower animals. When it enters by the mouth and nose, it may as dust pass directly into the air passages and lungs, or, being detained in the mouth, be swallowed with the saliva and so reach the digestive tract. Contained in food or drink, it may pass directly into the stomach and intestines.

It has been definitely proved that it may penetrate the healthy mucous membrane of the intestinal tube, pass into the lymphatic circulation without leaving the slightest lesion or trace of its passage, find its way into the thoracic duct, so into the general circulation and finally into the lungs. Therefore, its presence in the lung, coincident with its absence in the intestinal wall, does not all prove that it was not originally introduced in food or drink.

The early tuberculous affections of infancy, meningitis and tabes mesenterica, are generally due to the use of infected milk or to artificial feeding.

These considerations prepare us for the question whether, in view of the thousands of human beings who are expectorating tuberculous matter and depositing it with their urine and feces, great numbers of these bacilli must not find their way into our streams and constitute a source of pollution of our drinking water in many instances.

This inquiry is particularly pertinent in regard to the opportunity for dairy cattle to become infected themselves and to convey the infection to their milk if they drink from streams close to the source of pollution. Any one who has watched cattle drinking in a stream can readily understand how this might occur. Even when they do not wade in to a sufficient depth to immerse their teats and udders, in their efforts to drive away flies they throw the water dripping from their mouths and from the ends of their tails over their sides and udders. From the stream they usually go direct to the milking. With the carelessness which prevails on the average farm the milker finds no difficulty in mixing the milk which is distributed over the outside of the teats with any organic filth which may be clinging to them, as well as to his own hands, and allowing it, so contaminated, to drop into the milk pail.

EXPERIMENTS TO ASCERTAIN THE PRESENCE OF TUBERCLE BACILLI IN SEWAGE.

In order to remove this hypothesis of the possible contamination of water supplies from the realm of mere theory and place it on a substantial basis, I have been conducting a series of experiments, with the cooperation of Dr. Herbert Fox, chief of the laboratories of the State Department of Health to determine whether tubercle bacilli may be found in sewage, and, if so, to what extent. The pollution of water supplies by the excreta of typhoid fever, of dysentery, of cholera and of diarrhea, has been so evident and of such constant occurrence that it has filled our field of vision to the exclusion of the possibilities of such pollution by the poisons of other diseases. Tuberculosis is one which has been thus overlooked. I know of no investigations made or published in order to determine the facts in this matter up to the present time.

So far my researches have been limited to the examination of the sewage from the Rush Hospital for Consumption and Allied Diseases, West Philadelphia, the sewage from the White Haven Sanatorium for Consumptives, and the mixed sewage from the sewer outlet at South Street Bridge, West Philadelphia.

The sewage from the main outlet into the sewer from the Rush Hospital, taken November 24, was largely fluid, containing some solid fecal matter, and what was apparently refuse from the kitchen.

The sample was well shaken, the solid portions broken up with a rod and portions of 1, 2.5, 5 and 10 and 20 c.c. pipetted into centrifuge tubes, the first four being made equal to the bulk of the last one, with sterile water. These tubes were centrifuged for eleven hours, with one intermission to remove supernatant liquid and add fresh sterile water to them. After centrifugalization the solid sediment was spread on glass slides, using the entire 1 c.c. at the bottom of each tube. These slides were stained with Ziehl-Nielson carbol fuchsin for five minutes; one set was decolorized and counterstained with a saturated solution of methylene blue in absolute alcohol, and another was first decolorized with a 25 per cent. solution of sulphuric acid in absolute alcohol and counterstained with Loeffler's, while a third was decolorized and counterstained by Pappenheim's solution. This last method was used to corroborate the findings of one set of Rush Hospital sewage samples and those from White Haven. In every instance that tubercle bacilli were found in smears decolorized by the 25 per cent. sulphuric acid in absolute alcohol, they were also found on preparations treated with the Pappenheim solution. This method is declared a final tinctorial test by Pappenheim,[1] Simon[2] and Rosenberger (as yet unpublished). Every slide was subjected to the search of an hour under a one-twelfth oil immersion Zeiss with No. 6 compensation ocular. The following counts are given on the methods in which the slides are decolorized by the sulphuric acid alcohol method, because of the clearness of the field.

One undoubted tubercle bacillus was found on the slide containing the sediment of 1 c.c.; 2.5 c.c. showed three tubercle bacilli; 5 c.c. showed seven; 10 c.c. showed ten, and tubercle bacilli were found to be present in the centrifuged portion of 20 c.c., but their number was not counted. All these figures represent the search of one hour with a mechanical stage.

On December 17 another sample was taken at the same place. In this sample the result was practically the same as that above outlined. The number of organisms demonstrable in the slides made by identical methods was found to decrease appreciably when the sewage was kept under artificial conditions, that is, in large dark bottles in the icebox.

	Weeks elapsed.			
	0.	1 week.	2 weeks.	4 weeks.
No. of organisms in 1 c.c.....	1	1	0	0
No. of organisms in 5 c.c.....	6	3	1	1
No. of organisms in 10 c.c.....	8	+	2	1
No. of organisms in 20 c.c. (Average 3 counts).......	+	6	2	2

Samples were taken Jan. 4, 1907, of the sewage from the bactericidal filter-plant of the White Haven Sanatorium for Consumptives. Portions were taken from the mixed sewage, from the solid sediment after filtration, and from the effluent. The samples were given exactly the same treatment outlined for the sewage at the Rush Hospital, and equal volumes taken. The counts by the sulphuric acid alcohol method and the preparations decolorized and counterstained by the Pappenheim solution are practically identical. The counts are given according to the sulphuric acid alcohol method for the reason above mentioned.

In the stained sediment from 1 c.c. and 5 c.c. of the mixed sewage no tubercle bacilli were found, but they were found sparsely when the sediment of 10 c.c. was stained. This sediment stained so diffusely with methylene blue that it was practically impossible to see all fields clearly and some may have been overlooked. The solid sediment was removed from one of the chambers eighteen inches below the surface, as far down as was possible to reach. It was a dark, foul-smelling mass, about the consistency of feces and not dry as far down as could be seen. The mass was macerated with an equal quantity of sterile water, well mixed with the rod and portions centrifuged. The sediment of 1 c.c. of this mixture showed two tubercle bacilli after an hour's search. The effluent from this filter plant was taken directly into the bottle as it bubbled out of the ground about 200 feet down hill from the separation chamber. It was a turbid fluid and showed a bacterial count of 370,000. Typical acid-fast bacilli could be demonstrated in quantities of 10 c.c. after the search of one-half hour. They were in clumps and not easily enumerated. The sediment of smaller quantities failed to show any such organisms.

The sewage from the Schuylkill river was taken at the mouth of the sewer below South Street bridge, West Philadelphia. One hundred cubic centimeters were centrifugalized for twelve hours, the sediment thoroughly mixed from the several centrifuge tubes, recentrifugalized and dried in the hot air oven, softened with normal salt solution, again centrifuged, the supernatant liquid poured off, dried again in the hot-air oven, softened with salt solution and spread on four glass slides for staining purposes. The reason for these several washings was the presence of a scum or coating over the sediment when dried after the first centrifugalization No organisms in any way comparable to the *Bacillus tuberculosis* could be found. In preparations decolorized by 5 per cent. hydrochloric acid no acid-fast organisms were found; this was done to see if the smegma bacillus was present in the sewage. There were no masses of dejecta, but the fluid had a distinct fecal odor.

The experimental efforts at producing tuberculosis in guinea-pigs have been omitted up to this point because they can be treated together, their results being uniformly negative. The sediment in the several instances directly after centrifugation was subjected to temperatures of 60, 65 and 70 C. for fifteen, seven and two minutes, respectively, with the hopes of killing off the sewage organisms, particularly the spore-formers, without doing any damage to the tubercle bacilli. Guinea-pigs inoculated with this heated sediment either succumbed shortly after the inoculation or, when they survived this, failed to show any pathologic lesion of tuberculosis. In order to have the organisms in their vegetative state sediment from a large amount of sewage was incubated at 35 C. for twenty hours, centrifuged for a few minutes and this sediment subjected to heat as above outlined. The second centrifugalization was only done long enough (about twenty minutes) to throw down a sufficient sediment with which to work, a complete sedimentation requiring time sufficient to permit further spore formation. The results of inoculation into guinea-pigs were also negative. In smears made from some of the injection material the typical acid-fast organisms were found, but they could not be discovered in smears made from the peritoneum or organs of pigs dying shortly after injection.

This does not prove that the acid-fast bacilli were not tubercle bacilli. The discovery by stain of tubercle bacilli in sewage does not prove that they were viable. When taken direct from the sewer of the Rush Hospital and White Haven Sanatorium it is assumable that they still live when so recently from the human body. The fact that no tuberculosis was produced does not militate against our assumption of the identity of these acid-fast organisms because of the few that were introduced.

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[1] Berl. klin. Wchnschr., 1898, No. 37.
[2] Clinical Diagnosis, 1904.

inasmuch as we were obliged to use small quantities of the sediment to lessen the action of the accompanying germs which we could not kill or remove. Attempts at cultivation with pieces of organs and coagulated blood serum were, of course, failures.

EXPERIMENTAL WORK ON THE VIABILITY OF TUBERCLE BACILLI AND SEWAGE ORGANISMS.

At the outset of this work some hope was placed on the effect of sunlight on the sewage organisms. Later eosin with its well-known bactericidal activity was added to our means of removing the contaminating bacteria. Early in our experimentation the effect of sunlight on tubercle bacilli smeared and dried on filter paper was determined. Direct sunlight on these papers was sufficient to kill the tubercle bacilli in twelve minutes (April, 1907). The bacteria-bearing strips were exposed in open Petri dishes and then transferred to tubes of glycerin veal agar on which the stock was growing well at that time. In July and October, 1907, experiments on the effect of sunlight and eosin on the surface growths in flasks were made. The experiment was set as follows: One set of flasks was kept as control and one was used as control and exposed to the sunlight; to one set of flasks was added 0.03 per cent. eosin solution and on the surface of the third set a 2 per cent. eosin in gelatin was smeared in as thin a film as possible. While I am aware that this procedure is not satisfactory to determine the lethal sunlight exposure. it was hoped that some assistance might be given toward determining what would happen to tubercle bacilli in a thin layer of emulsified sewage sediment exposed in these flasks. The possibility of error in this technic is manifest. It is striking, however, that the transplants from the sets which were exposed in flasks smeared on the outside with eosin did not grow after one hour exposure, although the two tests were made when the sun's power is quite different—July and October.

Effect of Sunlight and Eosin on Surface Growths.

	Control.	½ hr.	1 hr.	2 hrs.	4 hrs.	8 hrs.
August 19:						
Control dark	+	+	..	..	..	..
Control without eosin	+	+	—	+	+	+?
Eosin in solution 0.03 %	+	+	+	+	+	—
Eosin smeared on surface.	+	+	—	—	—	—
October 19:						
Control dark	+	..	..	..	..	..
Control without eosin	+	+	+	+	+	—
Eosin in solution 0.03 %	+	+	+	+	—	—
Eosin smeared on surface.	+	+	—	—	—	—

It appears from this that the photodynamic power of eosin is effective after half an hour, or an hour at least, on tubercle bacilli. It restrains growth after transplantation, at any rate.

In making a control experiment with sewage a fresh positive Rush Hospital sewage was rapidly centrifugalized and the sediment allowed to germinate twenty hours in 90 per cent. by bulk of bouillon. This was again rapidly centrifugalized and a thick emulsion of the sediment placed in our usual tubercle bacilli flasks to the depth of about two millimeters. These were placed in lots like the last experiment, one set as control, one received 0.03 per cent. eosin and the third had a gelatin coating of eosin. The results of their growth after direct sun exposure on a very bright day (although Dec. 14, 1907) require no chart. Transplants made with a loop and with the extreme point of a straight needle, touching only the surface, gave marked positive growth of contaminating organisms after four hours.

The results of exposing dried sewage on filter paper as was done with the tubercle bacilli was likewise disappointing. The germinated sewage was rapidly sedimented and this mass ground up to a state approaching perfect homogeneity. It was then distributed by a pipette in equal quantities on slips of filter paper which were placed in a vacuum desiccator without acid for ten minutes, at the lapse of which they were still a little damp. The exposure to the sun was made in two minutes after removal from the desiccator, the time elapsing from removal from the incubator to the sun exposure being about forty minutes. The slips were then exposed directly to the sun for one, two, five, ten, thirty and sixty minutes and transplanted to neutral bouillon. Every exposure grew well.

It is evident from these few sunlight and eosin tests that longer exposure is required to kill the sewage organisms than would suffice to restrain growth of the tubercle bacilli, and that this technic is therefore impracticable.

We are dealing with such a small number of organisms in this sewage compared to the number usually employed to produce artificial lesions that some means must be found to render sewage organisms entirely innocuous, which means must be such that will not harm the tubercle bacillus itself. Dr. Fox and I are still working on this problem, but can not as yet report much progress. The finding of tubercle bacilli in smears made from sedimented sewage of tuberculosis hospitals by eminently trustworthy methods, is sufficient proof to us that these organisms are present in such sewage and may therefore be in the watercourses into which the sewage flows.

SOME PRACTICAL CONSIDERATIONS IN THE TREATMENT OF INFLAMMATION.*

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To treat intelligently any and all of the pathologic conditions which may present themselves in the oral cavity the practitioner, whether he be a physician or dentist, must understand the underlying process which is productive of these conditions, namely, inflammation.

Inflammation has been defined so many times that it is now a difficult matter to select a definition that will be accepted by all. Perhaps one of the best definitions is the one propounded by Grawitz, wherein he says that "inflammation is the reaction of irritated and damaged tissues which still retain vitality." The reaction referred to by Grawitz includes a number of successive changes, commencing with stimulation or irritation and ending with suppuration or pus formation. In conjunction with, and as a result of, the process just referred to, we have a manifestation of four other important conditions, dolor, rubor, calor, tumor—pain, redness, heat and swelling.

THE INFLAMMATORY PROCESS.

By way of preface, I shall briefly describe the changes which take place in the living tissue as a result of inflammation, because it is on this that I shall base my reasons for the treatment of the conditions to which I shall refer later. Sutton compares the local systemic conditions of inflammation to a conflict of living men instead of living cells, and it is worth repeating here, as it may explain many of the numerous changes which take place and which cause heat, redness, pain and swelling.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The leucocytes are the defending army, the vessels its lines of communication, the leucocytes being, in effect, the standing army maintained by every composite organism. When this body is invaded by bacteria or other irritants, information of the invasion is telegraphed by means of the vasomotor nerves, and leucocytes are pushed to the front, reinforcements being rapidly furnished so that the standing army of white blood corpuscles may be increased to thirty or forty times the normal number. In this conflict, cells die, and often are eaten by their companions. Frequently the slaughter is so great that the tissues become burdened by the dead bodies of the soldiers in the form of pus, the activity of the cells being proven by the fact that their protoplasm often contains bacilli in various stages of destruction. These dead cells, like the corpses of soldiers who fall in battle, later become hurtful to the organism which during their lives it was their duty to protect, for they are fertile sources of septicemia and pyemia.

The other symptoms, which are known as the cardinal symptoms, may be clearly explained by the following example: We will compare the blood vessels to flexible rubber tubes. Under normal conditions, the system provides for the passage of a certain quantity of blood through these tubes or blood vessels. Now, if anything, whether of a chemical or a physical nature, is introduced into any part of the body, and can interfere with or destroy the natural harmony of the part, the system will try to expel it, because it is a foreign body, and as long as it is present it will act as an irritant. The first changes which take place in the tissues, as a result of this irritant, cause a swelling of the tissues in which the blood vessels are imbedded, thus subjecting the elastic sides of the blood vessels to pressure and reducing their caliber. The same quantity of blood must then pass through the arteries as would pass through under normal conditions. We have present, therefore, this condition: Blood rushing through the vessels at an increased rate of speed on account of their diminished caliber. The rushing of blood against the sides of the vessels causes friction. Stimulation of the dilators of the vasomotor nervous system follows, allowing a greater amount of blood to rush to the capillaries and to redden the surface of the part. Heat also is generated from the friction produced by this rush of blood against the sides of the vessels; this general disturbance produces stimulation of the nerve terminals, and causes pain. All the symptoms are now accounted for, except impairment or loss of function. This last step I shall pass, as we can readily see that it is made possible only by the presence of these other symptoms which I have tried to describe.

In approaching all cases of inflammation, the first step in progressive treatment is the removal of the cause. This, I am sure, is accepted by all as the proper step to pursue, regardless of what part may be involved. Yet members of both the medical and dental profession, whose acts we must perhaps attribute to carelessness, are constantly making exception to this rule, and it is for this reason that I desire to present to this body some of the conditions and cases which are constantly coming under my observation.

First, we will consider the treatment of abcessed teeth, a pathologic process which I believe is miscalled more often than any other condition which I can recall at this time. How many times do we hear the intelligent but thoughtless practitioner refer to them as ulcerated teeth, and this by men who, if requested to define abcess and ulcer, would promptly reply that an abcess is a circumscribed cavity filled with pus, and that an ulcer is an open granulating sore. Now, if an ulcer is an open granulating sore, how can a tooth become ulcerated?

PATHOLOGY OF ABSCESS FORMATION

In order to build a foundation on which to base my future remarks, I shall briefly describe what takes place both in the tooth and in the surrounding tissues during the formation of an abscess. The commencement is in the involvement of the pulp. This may be effected by a blow from some external force, from the leverage brought about by careless extraction, or from improper treatment of irregularities of the teeth. Any of these forces will cause undue pressure on the vessels entering the apical foramen of the tooth; a strangulation of the vessels then takes place, the nourishment of the pulp is suspended and its vitality destroyed.

The same condition may also be caused by the direct pressure of a filling placed against the pulp, by the direct action of micro-organisms on the pulp by virtue of a carious condition of the tooth, or by the indirect action of thermal changes passing through a metallic filling which has been used to restore a carious tooth, or, again, by the action of arsenic or other drugs sometimes contained in filling material. Whether or not the cause is direct or indirect, physical or chemical, the same pathologic phenomena will first manifest themselves in the pulp of the tooth.

When the blood supply is interrupted or cut off, the pulp ceases to be nourished and a degeneration takes place. All the progressive steps of inflammation which I have described will occur in the pulp and, if not interrupted, will terminate in the formation of pus. The tooth becomes a foreign body and the system tries to expel it. The lodgment of the tooth in its bony socket prevents the accomplishment of this end and we have two opposing forces: First, the system trying to expel the tooth, and, second, the position of the tooth in the jaws preventing this expulsion. Thus we have present irritation, the first step of inflammation. Then what happens?

The inflammatory processes repeat themselves in the tissues outside the tooth substance, and the system partially accomplishes its end by loosening the tooth. All abscessed teeth will become loose some time during the process which I am describing. A breaking down of the surrounding tissues follows, with the formation of more pus in the tissues adjacent to the diseased tooth. Finally the pus will manifest itself by burrowing in the line of least resistance, through these tissues to the outer surface, often breaking through the face and making an ugly wound. Or, by infection, the inflammatory processes will repeat themselves in the bony substances, causing necrosis, which often endangers the life of the individual as in the case which I shall describe. One thing is certain, that as soon as any tooth becomes a foreign body from any cause, Nature never does and never will submit to its presence. The action of the system in trying to expel foreign bodies is many times beautifully illustrated in the cases where needles broken in the tissues of the fingers will present themselves later in the tissues of the arm.

THE FALLACY OF WAITING.

Now, if the removal of the cause is the first progressive step in the treatment of inflammatory conditions, why do men persist in advising patients not to have abscessed teeth extracted until the swelling of the face subsides, and in supplementing this advice by stating that the extraction of the tooth would be a very dangerous procedure? Would these same men advise noninterference with a gangrenous appendix until the swelling of the abdomen had subsided? Would they recommend leaving a piece of steel in the eye, a piece of glass in the foot, or a splinter in the hand until the swelling of these parts had subsided? If they would not so advise, why do they do so in cases where a tooth is involved? If they do recommend postponing the extraction, I believe that I am justified in saying to them that they do not act on the fundamental principles of pathology, and that, therefore, they should not assume that responsibility which is associated with the treatment of disease which many times involves a life. Of course, I do not recommend the extraction of all abscessed teeth, because many times the skilled dentist, by proper treatment, may prolong their period of usefulness for many years. What I do maintain, however, is that if the tooth is condemned the swelling of the face or other conditions should not interfere with its removal, and the sooner it is extracted the better.

In the treatment of inflammation we may be required to employ external applications. Shall we advise the application of heat or cold? Judging by my own experience, in both hospital and private practice, I believe I have seen more damage result from the application of hot poultices to the face than from any other one cause which I can remember. Here, again, I am forced to conclude that the practitioner who advises the application of heat in the first stages of inflammation for the purpose of aborting the abscess formation is not giving to his patient the proper treatment, and also that his advice does conflict with tried and true theory and practice in the treatment of inflammatory conditions.

I stated in the earlier part of this paper that, besides the removal of the cause, the removal of any of the cardinal symptoms would be a progressive step in the treatment. I believe that every condition which presents itself in inflammation is dependent on the preceding ones. In the early stages heat seems to be one of the predominating features. I apply ice, therefore, to remove this condition by keeping the parts cool through vasoconstriction, believing that I am limiting, if not entirely checking, the progressive action of the factors producing heat. I am describing the treatment I would recommend in the incipient stages of inflammation before the abscess had formed.

I can not understand why practitioners apply hot poultices to prevent a condition which is not only made possible by heat, but is greatly aggravated thereby. Heat is one of the cardinal symptoms, one of the conditions we wish to eliminate on account of the important function which it performs in accomplishing that which we are trying to prevent, yet even in view of this fact I heard two of our most reputable men make the statement last winter that they would apply ice only in cases where pus was present, and would apply heat in all other cases. Basing the treatment on my conception of what inflammation really means, I will say that I am satisfied to use ice in all cases, except where pus has formed, or where the inflammatory process has so far progressed as to make certain formation of pus and hence render impossible the abortion of an abscess. If pus has already formed, then I resort to the knife rather than to poultices, prefering a clear incision to a ragged wound which is always made by pus forcing its way through the tissues and finally leaving an ugly scar.

AN ILLUSTRATIVE CASE.

The following case will show what often may be and many times is the result of the treatment which I am condemning: I was called to see a child 5 years of age who was suffering from an abscessed temporary tooth. He had been taken to a dentist for advice some days previous. The dentist told the child's parents that to extract the tooth would be a very dangerous procedure. The tooth was not extracted and the pain and swelling increased from day to day. The mother finally took the child to a physician for advice. He confirmed the advice already given by the dentist, but supplemented it by telling her to apply hot flaxseed poultices to the child's face. In forty-eight hours the poultices accomplished their end and caused an irreparable injury. The tissues became distorted and the pus finally forced itself through.

The physician continued to treat the child during the next five weeks, at the end of which time the whole of the left superior maxilla and a portion of the malar bone were involved by necrosis. I was then asked to see the patient and found him in the condition just described. Pressure on the face anywhere below the line of the eyes would cause a large quantity of thick pus to flow from the break in the tissues under the eye, also from the nose and from the mouth. I advised an immediate operation, first explaining to the mother the possibilities of such a step in so serious a case.

Two operations were performed on the child; the first consisted in removing a large part of the superior maxilla from the lateral tooth back to the tuberosity of the superior maxilla. This section did not extend to the center of the hard palate. The method employed consisted in placing my finger between the teeth and cheek, holding the cheek out of the way while I dissected the cheek from the bone in such a manner that I could pass my finger up by the side of the jaw through the opening under the eye. By so doing I was able to simplify the operation as well as getting a continuous passage. Irrigation also was made more thorough, and the small particles of necrotic bone which have the power of re-infecting the parts operated on were washed away. At the end of four weeks a second operation was performed, which consisted in the removal of a portion of the malar bone.

To prevent the opening which existed under the eye from closing from the outer surface I placed powder in it. The secretion from the eye mixing with the powder formed a hard mass. The motion of the tissues against this hard mass produced irritation, which was causing more inflammation. Finally, after experimenting with several antiseptic powders, I found one on which water had little if any effect. Every morning I broke the adhesions on the outer surface which had formed during the night and filled the depressed raw cavity with this powder. After a few days granulation began to take place in the cavity and the wound closed from the bottom. Restoration of the contour was the result instead of the unsightly depression and distortion of the eyelid, which would have been present if the wound had been allowed to close from without inward. The restoration of the contour of the cheek, when the patient was discharged, was due to the tissues becoming cartilaginous, and filling the space formerly occupied by the bone.

Every step in this operation was carried out inside the mouth. I always avoid making incisions in the external surface of the face if it is possible so to do. If, however, we are obliged to make an external incision it is better to make it through one of the natural wrinkles of the face, for then, as shown here, it will at least be partly concealed. Following the second operation the case progressed favorably for five or six days. Then pus began to form again and was working back toward the ear. You can readily understand the dangers and complications which might arise if the pus reached the temporomaxillary articulation. So I made a small incision a little farther back on the external surface of the cheek near the ramus of the jaw, of which no trace was left.

THE KIND OF INCISION.

Some writers express the belief that in order to evacuate the contents of an abscess it is necessary to make the incision the entire length of the abscess. In those cases in which the incision is made within the oral cavity the length of the incision is not important. But when (even if seldom) the incision is to be made externally, our attention should be directed to the cosmetic effect which our treatment will have. Under such circumstances a large incision is unnecessary. I usually make the incision of sufficient depth to reach the pus but as short as possible, seldom making it longer than the blade of the knife, and in a number of instances much shorter, always using gauze to keep it open.

I have seen many operators after opening an abscess exert pressure on it for the purpose of expelling the pus. I believe that this part of the treatment is not necessary. It causes a great amount of unnecessary pain and may, by bruising the already pathologic tissues, be productive of more inflammation, with a probable absorption of the pus into the circulation because of this pressure. The dangers which may result from such practice are so broad that I hesitate even to define their boundaries. Pressure should not be made on the sides of the abscess after it has been incised. The natural tendency of the tissues to resume their normal condition will, by their own contraction, without external interference, accomplish everything that is desired, with less pain and with better results.

HYPODERMIC INJECTIONS.

As there are many cases in which the improper use of the hypodermic syringe has caused much trouble, perhaps it is within the scope of this paper to direct attention to a few of the reasons why this trouble occurs so often. It seems hardly necessary in this age to refer to the importance of sterilized instruments, but on account of some errors which have been caused by ignorance and indifference on the part of the operator it may be useful in considering this problem of hypodermic medication to refer briefly to the need of asepsis.

First, we should use an anesthetic with whose ingredients we are thoroughly familiar. Second, we must be sure that the instruments which we are about to use are sterilized. In my practice, even though I am sure that the instruments, especially the hypodermic syringe, are surgically clean, I always pass the needle through a Bunsen flame. This will destroy any micro-organisms that may come in contact with the needle between the time of sterilization and the time at which I use it. I always use an all-metal removable piston syringe for this purpose, removing the piston and filling the barrel through the top rather than drawing the fluid through the needle point. I have seen operators, even within the past year, inject a local anesthetic into the gum after first filling the barrel by introducing the needle point into the vessel containing the anesthetic and drawing the latter through the needle into the barrel. Subsequently they have injected the fluid into the gum tissue, refilling the syringe by repeating the process just described. It is easy to understand that if the needle point which is sterilized is introduced into the diseased tissues and then into the bottle of anesthetic, the anesthetic will be contaminated. The next patient, regardless of how much care may have been exercised in sterilizing, will have injected into his tissues a solution containing micro-organisms which can and may destroy not only the vitality of the part but perhaps his life as well.

GIVE THE SOLUTION TIME TO ACT.

Why is there such a variation in the results which are obtained by the different men who have used local anesthetics in performing minor surgical operations, such as the extraction of teeth, etc.? It would seem that many times the operator does not allow sufficient time to elapse for the anesthetic to accomplish its end. In his anxiety to extract the tooth, before the effects of the anesthetic pass away, he really extracts the tooth without anesthesia. After the injection of the anesthetizing fluid it is best to wait from thirty seconds to a minute, sometimes even a longer period, before commencing to operate.

In a majority of cases in which we resort to local anesthesia the parts are already in a highly inflammatory condition. Again, the first step in the treatment should be, if possible, the removal of the cause. In the case where a tooth is the cause we should exercise much care in introducing the anesthetic into the tissues because in treating one condition we may start an equally serious one. The technic is perhaps the most important step in the whole procedure, not only from the viewpoint of making the injection of the anesthetic effective, as well as the extraction of the tooth painless, but from the more important point of avoiding a future condition which is not only more troublesome to treat, but which has associated with it a greater danger than accompanies the condition which we are now treating.

Before injecting the anesthetic wash the whole mouth by syringing it with warm water which contains a portion of any of the many mouth washes. The selection of this must be left to the judgment of the operator. Next wash the surface of the tissue into which the hypodermic needle is to be introduced with 70 per cent. alcohol. In this way we have prepared the field of operation and have reduced, so far as we can, the danger of forcing more bacteria into the already diseased tissues.

THE TECHNIC OF INJECTION.

The needle is inserted into the gum tissue at a right angle to the tooth. Before exerting any pressure on the piston withdraw the needle a short distance, but not, of course, entirely out of the tissues. This will leave a space between the end of the canal which the hypodermic needle has made by its first insertion and the needle in its new position. Next, when we press the piston, the pressure which would ordinarily be exerted on the tissues if this space did not exist is reduced and the pain is slight. I press the piston as lightly as I can at first in order to give the anesthetic an opportunity to become diffused before forcing it into the tissues. Then I gradually increase the pressure on the piston, and the tissues assume a whitish appearance in the form of a circle in the area of the needle.

In many cases this process must be repeated before anesthesia is complete. In such cases I reintroduce the needle in the manner described, always placing the needle within the whitened circular area, no matter how many injections are required. If I can keep introducing the needle into this whitened area, which by virtue of the pressure and the anesthetic becomes larger each time, the only acute pain which is experienced by the patient is that from the first introduction of the needle.

I do not try to inject the anesthetic around the end of the root of the tooth, first because I find that the results are just as good without doing so, and I avoid also another danger. I treated some patients in whom the operator had introduced the needle into the tissues parallel with the abcessed tooth, aiming to get the anesthetic as near the abscess as possible, and then forcing it into the tissues under high pressure. If we reflect for a moment on the condition of the tissues in the region of the abscessed tooth we will readily see that they are all stretched and distorted and their tonicity, which would under normal conditions be present, is destroyed. We must bear in mind that the pus which is contained in the abscess sac is only prevented from commencing a pyemic or septicemic career by a thin membrane which may be easily broken.

Now, if the operator places his needle so that the anesthetizing fluid can be forced into the already overfilled abscess sac, the sac may be broken by the pressure of the anesthetic forcing its way into it. If this does happen, there is a probability of the micro-organisms which fill this sac entering the circulation and producing a septicemia. The condition just described is one in which the abscess is completely formed, but the same principles which are involved in this case are involved in every case from the commencement of the formation of an abscess to its completion, and the dangers which I have tried to describe are in proportion to the stage of the disease which we are treating.

I have purposely avoided reference to the minor details on the subject of inflammation because I am recording the practical experience for the busy practitioner, the exigencies of whose life compel him to get at the facts quickly.

248 Butler Exchange.

INTERSTITIAL GINGIVITIS.*

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While the term "Riggs' Disease" conveys a pretty definite meaning to the profession and to a majority of the laity, many of the profession have felt that it was not a term of sufficient scientific import and rather tended to emphasize the poverty of nomenclature in the dental department of medicine.

This led to the search for a more scientific name, and "pyorrhea alveolaris" became almost universal. This term, being descriptive of but one of many symptoms, failed to satisfy most of the students of this disease, and it remained for Talbot to point out that in all cases there was an underlying inflammation of the connective tissue of the gingiva and to suggest the name of "interstitial gingivitis."

CAUSE.

The cause of interstitial gingivitis is still a question of dispute, although many theories have been put forward, some, if not all, of utmost plausibility. The truth of the matter probably is that the causes are many, or rather, that many are the conditions in the economy which give rise to the disturbances in the nervous and circulatory system producing the breaking down of the tissues about the roots of the teeth.

That it is a local expression of systemic disorder seems to me the best solution, and this is the opinion reached by many of our best observers. The opponents of this theory argue that as the disease does not exist where there are no teeth, it is, therefore, a purely local disease. This seems to me a specious argument, which if carried out to the fullest extent would admit the existence of few if any diseases of general or systemic origin when the result of that disease expresses itself in definite localities. Take, for instance, gangrene of a toe: Would the absence of that toe and, therefore, of disease in that member preclude the possibility of the organic malady which tends to gangrene?

By many observers a connection has apparently been traced between interstitial gingivitis and rheumatism; this is in turn refuted by those who find cases in which no rheumatism can be traced. It is my belief that both are but expressions of metabolic disorganization.

Various other constitutional diseases, such as renal, heart and liver disturbances, have been charged with the paternity of interstitial gingivitis. Each disease has in individual cases been apparently proved guilty, but the very failure at other times to find the result and the alleged cause associated seems to prove that back of them all is a common cause.

In the attempt to find such cause it may be well to see if it is possible to trace a condition precedent to these diseases and common to them all.

Goldthwaite, in his investigations of rheumatism, finds more than a coincidence in the presence of pus as an antecedent in many cases of rheumatism. Elimination of pus from the frontal sinus, antrum, tonsils and alveolar regions has given great relief in his cases.

Many grave renal diseases, while causing untold misery from the fact that the disorganized kidneys can not eliminate toxic and irritating products of metamorphosis, are, according to one authority, caused by irritation from products of faulty metabolism, due to imperfect or improper digestion in the alimentary canal.

Talbot, writing on autointoxication, says that interstitial gingivitis is found in full sway in Bright's disease, diabetes, rheumatism, gout, asthma, nervous disorders, etc., before these diseases have become of sufficient importance to be observed by the physician.

Fletcher, the advocate of thorough mastication, who holds the distinction of having created a new word in our vocabulary, namely, "to Fletcherize," maintains that if his precepts are followed and perfect digestion thereby produced, muscular pain or soreness can not occur. Muscles may become fatigued and refuse to act, but the sensations of cramp or lameness which most people feel after prolonged or unusual exertion exist only in those cases where there has been either improper digestion or faulty elimination or both.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

The conclusion, therefore, seems to follow that the ultimate cause of interstitial gingivitis is the common cause of many chronic organic diseases, that is, toxins in the intestinal canal, whether they be poisons absorbed from some external source or thrown off as a result of physiologic chemical action on food good in nutritive quality but wrong in quantity or improperly prepared for the alimentary canal.

Cause and effect: What a problem it is to prove which is which! If interstitial gingivitis occurs about a malposed tooth, is it simply because the tooth is there and because its position harbors the disease? Or has the malposition led to improper mastication, faulty metabolism and the breaking down of interstitial tissue at a weak spot?

Does the deposit of calcareous substance on the teeth cause interstitial gingivitis? Or has a weak and flabby mastication produced autointoxication, permitted the deposits to form, and thus presented a nidus for the interstitial inflammation?

It is my belief that the first cause lies in the intestinal tract and that given perfect conditions there will be no interstitial gingivitis. Mark the words, "perfect conditions"—the various and often comparatively slight causes which contribute to imperfect conditions will be touched on in the section of the paper devoted to treatment.

Intestinal putrefaction produces indican in the urine, and as indican will always be found in excess in cases of pus formation, it seems logical to charge the indican in the tissues with being largely responsible for the condition which leads to the breaking down into pus.

As causes of intestinal putrefaction Fossume cites the following:

1. Improper mastication, resulting in gastritis with lessened hydrochloric acid.
2. Gastritis, the lessened hydrochloric acid stimulating pancreatic secretions. In such cases delayed digestion carries the peptones too far down the tract to be absorbed and the coli communis changes it to indol, skatol, etc.
3. Excess of sugar, due to catarrh following fermentation and accompanied by much mucus so that digestion is delayed by (a) impoverished juices and (b) mechanical obstruction caused by presence of too much mucus.
4. Excess of proteids, with normal digestion.
5. Too much fat in food, mechanically interfering with absorption, though the digestion and the quantity of proteids are normal.
6. Slow digestion, with normal quantity of proteids.
7. Lack of bile, thus favoring putrefaction, as bile is strongly antiseptic.
8. Weak muscular action of the intestines.

Talbot lays great stress on autointoxication as a cause of this disease and has pretty conclusively shown that the uric acid habit is not a cause of interstitial gingivitis, but, like interstitial gingivitis, is only an expression of disturbed nutrition.

As has been said, observers have always shown a tendency to connect interstitial gingivitis with other systemic diseases—diseases whose origin is generally conceded to be due to faulty metabolism. Hence we find one man attributing the disease to rheumatism, another to gout, another to diabetes, etc., ignoring the fact that all these diseases have a first cause, which is faulty metabolism, and that, given the first cause, interstitial gingivitis becomes established, even in very young children (as scurvy) before the other diseases are diagnosed.

The treatment may be divided into, first, preventive and, second, curative, and each subdivided into local and systemic.

PREVENTIVE TREATMENT.

Local.—Inasmuch as it has been shown that the blood vessels of the gingiva become choked with the products of metabolism, it becomes an absolute necessity that the circulation should be assisted in every way possible.

Hence the advantage is seen of massage, of mildly stimulating mouth washes and, above all, of the stimulation resulting from the hand-polishing system for which Smith is the sponsor.

The patient should be instructed in the use of the tooth brush, it being a well-known fact among careful observers that many who brush their teeth faithfully many times a day never really clean them.

Inflammation of the mucous membrane, due to malocclusion or impaction, calls for the necessary correction, as such irritation easily becomes the starting point of interstitial gingivitis. This, perforce, leads to much regulating of the teeth, which was formerly neglected when there was no visible deformity, and to regulating at a much earlier age, since interstitial gingivitis, given the necessary condition for development, is no respecter of age.

And this again leads to the subject of Fletcherizing, or the thorough and proper use of the teeth. Without their proper physiologic and anatomic use, all organs and members of the body tend to waste away or become a prey to disease, and the teeth are no exception. It, therefore, becomes evident that even a perfect set of teeth perfectly cared for can not be maintained in perfect health without perfect use.

No stomatologist fulfils his mission who, thorough though he may be in his technical care of the oral cavity, fails to hammer into the mind of his patient the paramount necessity of the thorough use of the teeth in mastication.

Systemic.—I fancy that any one who has followed me thus far recognizes that I at least believe that the starting point of interstitial gingivitis lies in the alimentary canal and that faulty metabolism, whether due to imperfect digestion and assimilation of true foods or to the ingestion of substances not properly classed as foods, such as alcohol, makes for a condition of the interstitial tissue which lends itself easily to inflammation.

As Talbot has reminded us, the blood vessels in the alveolar process can not readily expand to the pressure of the blood, and if that blood be charged with toxins, then with high pressure and sluggish circulation the breaking down into inflammation becomes easy. Thus physicians are brought face to face with the importance—yes, the necessity—of teaching temperance to their patients. Overeating and overdrinking are bound to fill the system with ptomains and ptomains largely of the toxic variety, and perhaps the worst thing about overdrinking is that it leads to overeating.

It should not be imagined that the small eater is necessarily not an overeater. He often eats some special kind of food to excess, as witness the sailors on long voyages who eat salt pork (and often not heartily) and become affected with scurvy (interstitial gingivitis).

Infants improperly or scantily fed have scurvy; and sometimes with plenty of variety at hand a man, through some perversion of taste, persists in eating some particular kind of food which the system can not properly eliminate. Tea, coffee, alcohol and tobacco all have their charm, and almost every adult is a devotee of one or more of these stimulants. They are not foods; in fact, each to a greater or less degree, according to its use or abuse, becomes a factor in upsetting the physiologic balance. The patient, then, must be taught that if he dance he must pay the piper. At the age of 30, when the anatomic structure is complete, there is not the demand for tissue building that there was in youth. All material not necessary for the repair of the natural wear and tear of the machine consequently becomes a clog in the system and interferes with the circulation. I have found that two meals a day are amply sufficient for a fairly strenuous life the last twenty years. Again I call attention to Fletcher and the tests of his endurance as made at Yale. Youths should eat proper food properly, and adults should refrain from overeating and eating in ruts. Though the diet may be simple, yet its simplicity should contain a variety. If there must be a cereal every morning, it should be varied from one day to another—not a difficult matter in these days of so-called "breakfast foods." And so with any article of food, constant and continued repetition should be avoided.

CURATIVE TREATMENT.

Systemic.—For the patient presenting himself with a well-established case of interstitial gingivitis it is necessary to pursue an active and somewhat drastic course, both systematically and locally. The systemic treatment will be considered first.

To clean out the intestine I prefer to use podophyllin in centigram doses, giving two at night, followed by a saline on arising; then, to purify the intestinal canal, an intestinal antiseptic tablet made up of the sulphocarbolates of zinc, lime and soda, one at noon, another at night. The podophyllin is repeated the second night and the rest of the treatment the next day, and so on until the physician is reasonably satisfied that the bowel has been thoroughly scoured and purified. This should be followed up with phosphate of soda, 60 centigrams, *t. i. d.* for an indefinite period, or until the local treatment is finished and the patient put on the general preventive treatment.

If there is much soreness of the gingiva or dark red spots, tender on pressure, indicative of a gouty tendency, salicylic acid or aspirin, 30 centigrams, *t. i. d.*, will often act magically. In obstinate cases it is well to try iodid of potassium, 30 centigrams, *t. i. d.*, not only because the presence of iodin in the system acts most kindly in all cases of inflammation of mucous membrane, but also because the physician can never be entirely sure that a specific taint is not complicating the case. The usefulness of iodin in mucous inflammation, and also the fact that interstitial gingivitis may often be the first indication of arteriosclerosis, make hydriodic acid a timely remedy in such cases.

Calcium sulphid, an old remedy for sterilizing the system and checking the formation of pus, has of late received renewed attention from practitioners who have found it possible to get a pure preparation. It seems to be a clinical fact that saturation of the system with calcium sulphid, about gm. 20 to gm. 30 in twenty-four hours, will check the formation of pus in both alveolar abscess and in interstitial gingivitis. From my own observation and practice I am convinced of its efficacy.

The opsonic index has been taken in this disease. Treatment in accordance has been given a trial and favorable results reported.

The patient should be commanded to chew his food thoroughly, eating only what he can so chew.

The diet should be regulated, correcting the patient's tendency to take certain foods to excess and adding to his diet wholesome foods which he has eschewed owing to dislike or a fancied belief that they disagree with him. If the patient is over 30 the amount of flesh food ingested should be limited and the use of underdone meats discouraged. Almost invariably, on inquiry, it will be found that patients with interstitial gingivitis drink but little water. The deleterious effect of this habit in cases of interstitial gingivitis is too obvious to need further elucidation to the professional mind, but it is a condition too often overlooked. Six to eight glasses of water a day is little enough, yet few are they who drink as much. Obvious also is the importance of fresh air, exercise and deep breathing; yet these simple means for the establishment of good circulation are too often slighted or, because so obvious to the professional mind, their value is left for the patient to discover for himself.

To him the observance of these hygienic rules means simply an increase of his appetite, the indulgence of which in nine cases out of ten is just what should be avoided. It is elimination which should be sought, not further ingestion.

Old age, Metchnikoff says, is caused by the putrefaction of food in the colon. Measures to arrest or prevent this putrefaction tend to prolong life. He recommends lactic acid ferment and suggests buttermilk as a simple form of treatment.

Based on his suggestions, there are now on the market tablets of lactic acid ferment which, it is asserted, produce a clean, sweet colon and hence freedom from arteriosclerosis. I have been trying the effect of these with apparently good results. Patients will be found with well-marked interstitial gingivitis whose diet seems most correct. The patient may avow that he has a perfect stool with daily regularity, but on close questioning will admit that the stools are foul. It is in such cases that Fletcherism is demanded, for it should be remembered that Fletcher maintains that his method produces a stool absolutely free from odor. As a matter of fact these patients admit in nine cases out of ten that they bolt their food.

While realizing the importance of the practice of thorough mastication in these patients, it is well to remember the excellent temporary effects of intestinal antiseptics. Various writers have called attention to indications for treatment of the alimentary canal from observations of the condition of the tongue; for instance, a broad, thick, pallid tongue calls for alkaline treatment, both locally and systemically, and a pinched, dry, red tongue is evidence of need of acid treatment.

Local.—While the treatment up to this point has called for the keen attention and skill of the stomatologist, it is now that he has the final word and here that his skill and faith in his works bring about the real cure. For with interstitial gingivitis once established nothing will avail without the most thorough, persistent and intelligent local treatment.

Riggs, who wrote on this disease and to whom all honor is due (although I do shrink at giving the unscientific name of Riggs' disease to interstitial gingivitis), laid the greatest stress on the necessity of thoroughly scaling the teeth. Younger, who has done more for the cause than any other living man, has hammered at this point most insistently. He says that the teeth must be scaled and that if to scale one tooth properly takes all of a long sitting the time must be so occupied and the one tooth done most thoroughly. He, as well as Riggs, has given the profession a set of scalers of great value to the operator. There are many others, notably Harlan, who have emphasized the importance of thorough scaling and devised instruments to facilitate the removal of deposits. I only wish to say that they have not put the matter forcefully enough. Those who have had experience in transplanting and replanting teeth know that a tooth should not only be clean and free from tartar, but that it must be smooth and polished. Many of the scalers of finest temper and cleverest design fail to leave the tooth in this condition and, therefore, they fail. The set of instruments invented by C. M. Carr do not scrape or draw-shave the teeth but plane them. When the tooth has been thoroughly planed by these instruments it is as smooth as glass. The varying lengths of operating shafts, curves, angles, etc., in devising which Carr has shown his genius, make it possible to reach every part of all teeth and their roots. He naturally emphasizes the importance of the perfect smoothness and cleanliness of the roots. In individual cases he can probably make his position good. His error is in considering the matter closed at that point and in not going deeper into cause and prevention. To sum up the instrumentation or operative treatment in interstitial gingivitis I do not hesitate to state that if with the teeth *in situ* the operator can produce the same freedom from deposits and the same polish that he could with the tooth in his hand and a cuttlefish disk in his engine, then he may be sure of curing for the time being any case of interstitial gingivitis. It is for the progressive operator to find the ways and means for doing this.

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It is for the operator always to remember that if for any reason he can not perfect the smoothness of the tooth *in situ*, it remains for him to extract, polish and replant. While the concensus of experience shows that such teeth are apt to become subject to absorption and come out after about seven years, yet I have cases of perfect teeth after a lapse of twelve years since replantation. It is impossible to place too much emphasis on the importance of the fixation of the teeth after such an operation, and also of teeth (not replanted) that have been loosened by the disease. Splints for this purpose are designed for temporary or permanent use, according to the necessity of the case.

It is now over ten years since I first made the assertion that, in proportion as teeth afflicted with interstitial gingivitis are in serious condition, in just that proportion is the removal of the pulp a necessary preliminary treatment.

Time and experience have only emphasized the conviction, and it is advised that the pulp be surgically removed where the disease has involved the root for at least half its length. In the majority of such cases the pulp will be found in an irritable condition, conducive to pulp stones or exostosis, and in the case of multiple roots one or more are often found with the pulp dead. The removal of the pulp by pressure anesthesia, as previously described by me,[1] is easy and simple.

Remedies and medicines in treatment must now be considered. The cleansed pocket needs something to stimulate the soft tissues to new granulation and to contract and heal around the root. Lactic acid in 50 per cent. solution is excellent and deserves trial. Aromatic sulphuric acid should always be in mind, especially if the disease has gone far and involved the alveolar process. They both promote the throwing off of any diseased bone tissues. I have found a mixture of carbolic acid and caustic potash, in equal parts, of greatest benefit in destroying soft tissue that is not granulating well or where there are exuberant granulations.

Iodin or compounds of iodin, as iodid of zinc or iodid of silver, have a most beneficial effect, the compounds especially adding to the well-known beneficial action of iodin the astringent and antiseptic effect of the metals. At this stage of the treatment also trichloracetic and monochloracetic acids are useful. If the disease has not gone deep enough to warrant the removal of the pulp and yet exposes dentine that is very sensitive, nitrate of silver for the posterior and chlorid of zinc for the anterior teeth have their well-known uses. Adrenalin and chlorid of aluminum are excellent astringents to tone and constrict the soft tissues.

For the patient to use at home, the free application of bicarbonate of soda is prescribed for its well-known effect both on inflamed mucous surfaces and its obtunding effect on sensitive dentine.

Limewater, fallen somewhat into disuse, is a splendid alkaline astringent and detergent remedy. Salt, free and in solution, has often proved efficacious in reducing inflammation.

Mouth lotions made up of several carminatives in alcoholic solution do much to stimulate and tone sluggish mucous surfaces. The incorporation of perborate of soda in a tooth powder does much to keep the parts clean and aseptic.

Interstitial gingivitis is a preventable and curable disease, and the stomatologist who does not prove this fact to his patient fails in his duty.

129 Marlboro Street.

DISCUSSION

ON PAPERS OF DRS. POWER AND BRIGGS.

Dr. M. L. Rhein, New York: I have for a long time been convinced that, while there is a well-marked condition known as gingivitis, when the alveolar tissues themselves are involved we should come nearer the truth if we would term that condition alveolitis rather than gingivitis. Both forms of the disease are present at times, but on the other hand gingivitis is sometimes present when alveolitis does not exist. The question of nomenclature ought to be settled. I wish that I could thoroughly agree with Dr. Briggs in attributing organic troubles entirely to faulty metabolism. I agree with him that faulty metabolism plays an important rôle in this condition. I have in this respect repeatedly recognized the some particular kind of food which the system can not properly eliminate. Tea, coffee, alcohol and tobacco all have their charm, and almost every adult is a devotee of one or more of these stimulants. They are not foods; in fact, each to a greater or less degree, according to its use or abuse, becomes a factor in upsetting the physiologic balance. The patient, then, must be taught that if he dance he must pay the piper. At the age of 30, when the anatomic structure is complete, there is not the demand for tissue building that there was in youth. All material not necessary for the repair of the natural wear and tear of the machine consequently becomes a clog in the system and interferes with the circulation. I have found that two meals a day are amply sufficient for a fairly strenuous life the last twenty years. Again I call attention to Fletcher and the tests of his endurance as made at Yale. Youths should eat proper food properly, and adults should refrain from overeating and eating in ruts. Though the diet may be simple, yet its simplicity should contain a variety. If there must be a cereal every morning, it should be varied from one day to another—not a difficult matter in these days of so-called "breakfast foods." And so with any article of food, constant and continued repetition should be avoided.

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The eucain solution is for those who dread cocain or where the operator fears its effects, the cocain being perhaps surer in its anesthetic effect.

It is for the operator always to remember that if for any reason he can not perfect the smoothness of the tooth *in situ*, it remains for him to extract, polish and replant. While the concensus of experience shows that such teeth are apt to become subject to absorption and come out after about seven years, yet I have cases of perfect teeth after a lapse of twelve years since replantation. It is impossible to place too much emphasis on the importance of the fixation of the teeth after such an operation, and also of teeth (not replanted) that have been loosened by the disease. Splints for this purpose are designed for temporary or permanent use, according to the necessity of the case.

It is now over ten years since I first made the assertion that, in proportion as teeth afflicted with interstitial gingivitis are in serious condition, in just that proportion is the removal of the pulp a necessary preliminary treatment.

Time and experience have only emphasized the conviction, and it is advised that the pulp be surgically removed where the disease has involved the root for at least half its length. In the majority of such cases the pulp will be found in an irritable condition, conducive to pulp stones or exostosis, and in the case of multiple roots one or more are often found with the pulp dead. The removal of the pulp by pressure anesthesia, as previously described by me,[1] is easy and simple.

Remedies and medicines in treatment must now be considered. The cleansed pocket needs something to stimulate the soft tissues to new granulation and to contract and heal around the root. Lactic acid in 50 per cent. solution is excellent and deserves trial. Aromatic sulphuric acid should always be in mind, especially if the disease has gone far and involved the alveolar process. They both promote the throwing off of any diseased bone tissues. I have found a mixture of carbolic acid and caustic potash, in equal parts, of greatest benefit in destroying soft tissue that is not granulating well or where there are exuberant granulations.

Iodin or compounds of iodin, as iodid of zinc or iodid of silver, have a most beneficial effect, the compounds especially adding to the well-known beneficial action of iodin the astringent and antiseptic effect of the metals. At this stage of the treatment also trichloracetic and monochloracetic acids are useful. If the disease has not gone deep enough to warrant the removal of the pulp and yet exposes dentine that is very sensitive, nitrate of silver for the posterior and chlorid of zinc for the anterior teeth have their well-known uses. Adrenalin and chlorid of aluminum are excellent astringents to tone and constrict the soft tissues.

For the patient to use at home, the free application of bicarbonate of soda is prescribed for its well-known effect both on inflamed mucous surfaces and its obtunding effect on sensitive dentine.

Limewater, fallen somewhat into disuse, is a splendid alkaline astringent and detergent remedy. Salt, free and in solution, has often proved efficacious in reducing inflammation.

Mouth lotions made up of several carminatives in alcoholic solution do much to stimulate and tone sluggish mucous surfaces. The incorporation of perborate of soda in a tooth powder does much to keep the parts clean and aseptic.

Interstitial gingivitis is a preventable and curable disease, and the stomatologist who does not prove this fact to his patient fails in his duty.

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DISCUSSION

ON PAPERS OF DRS. POWER AND BRIGGS.

Dr. M. L. Rhein, New York: I have for a long time been convinced that, while there is a well-marked condition known as gingivitis, when the alveolar tissues themselves are involved we should come nearer the truth if we would term that condition alveolitis rather than gingivitis. Both forms of the disease are present at times, but on the other hand gingivitis is sometimes present when alveolitis does not exist. The question of nomenclature ought to be settled. I wish that I could thoroughly agree with Dr. Briggs in attributing organic troubles entirely to faulty metabolism. I agree with him that faulty metabolism plays an important rôle in this condition. I have in this respect repeatedly recognized the value of what is known as Fletcherism. But, to illustrate the fact that faulty metabolism does not always play the initial rôle as the predisposing cause of this condition, we have renal trouble in children. This is not a question of faulty metabolism, the initial etiologic factor being the rapid development of the child physically. In such cases alveolitis often appears and urinalysis will show albumin, etc. Faulty metabolism may also be present, but only as a symptom, not as an etiologic factor. We should endeavor in our nomenclature to use great care in arriving at the true etiologic factor.

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[1] Internat. Dent. Jour., April, 1891

Dr. Eugene S. Talbot, Chicago: I take issue with Dr. Rhein's views in regard to the etiology of this condition. He contradicts himself; the very fact that the child has had renal trouble and associated conditions shows so far as we understand pathology to-day, that those conditions are due to faulty metabolism, to want of proper assimilation and adequate distribution of the food to the tissues. Fletcherism should be taught in dental colleges. Oral hygiene and Fletcherism should be so impressed on the minds of the students that when they commence practice these will be the watchwords constantly in mind. Some of the best medical schools are already teaching Fletcherism, and it is considered one of the most important studies in connection with digestion and assimilation. The treatment, both constitutional and local, suggested by Dr. Briggs, is the best that can be recommended with our present knowledge of materia medica.

Dr. N. S. Hoff, Ann Arbor: There is no serious disease that is more easily curable than interstitial gingivitis. It is curable in any stage, unless the extraction of the teeth is clearly indicated. Like many other diseases, however, the condition may recur. The whole subject of the treatment of this disease and the practice of oral prophylaxis is going to elevate the standard of all other operations. More than anything else that has come into dentistry in the last twenty years, the prophylactic treatment of Dr. Smith, that so many are using now, has elevated the standard of all operative procedures, and Fletcherism is going to help. Oral prophylaxis makes it imperative that we correct the malpositions of the teeth, and usually this is the first thing to do. We must retain all teeth possible to be retained, and keep each tooth in the best possible condition. This means practical oral prophylaxis and the cure of pyorrhea. This will finally revolutionize our system of crown and bridge work. The dentist of the future will have his hands full; he will have wonderful work to do. And if we are going to do what is expected of us in the future, how much is going to be expected of the dental college in the future! The course must be longer than three, four or five years for adequate dental preparation, and how we are going to get in a medical course with the dental is one of the things I can not understand. The ideals are becoming so high and the demands so great that in the future we shall have to specialize in dentistry more than ever before. We shall in a few years have more specialties in dentistry than medicine has to-day; no one man can do all the work required to be done in the future.

Dr. Adelbert H. Peck, Chicago: Hypodermic injections in inflamed areas must be used with the utmost care, and the medicaments should never be carried into the area of pus accumulation. I have seen most dire results follow such mistakes. The fixation of loose teeth is one of the most important matters to engage our attention in this connection. When the teeth are loose they should be fixed by some mechanical means so that they will be firmly held in position, thus avoiding continual irritation to the diseased parts in their daily use. The list of drugs Dr. Briggs has given is splendid. Iodin, in proper combination, is one of the best agents to be used in these conditions.

Dr. N. S. Hoff, Ann Arbor: In regard to injecting cocain for operations on abscessed teeth, as suggested by Dr. Power, I am in the habit of injecting into the peridental membrane entirely and not into the gum tissue at all. This method is very satisfactory to me. If I can not get the syringe point into the membrane I take a small Gates-Glidden drill at the right angle, make a small drill-hole alongside the root, and through this inject into the membrane only one or two drops. In that way I run little risk, and have never had any trouble.

Dr. James E. Power, Providence: In the case which I described, the little patient was under the treatment of three different physicians during his illness. It is reasonable to believe from the condition of the child that these practitioners were thoughtless and careless in allowing the disease to progress so far. My object in presenting this subject is, through the medium of The Journal of the American Medical Association, to reach many thousands of physicians, and through them, patients that could not be reached in any other way, saving them unnecessary trouble and pain.

Dr. Edward C. Briggs, Boston: As to "faulty metabolism" not being a blanket to cover all the conditions, it depends on what is meant by "faulty metabolism." The baby who does not get enough fat in the mother's milk (the rest of the food being right), is perhaps normal in its metabolism, but suffers because something is left out. Again, a well-nourished individual whose colon becomes subject to putrefactive changes may be all right in every other respect. He eats well, digests well, has normal dejecta daily; his heart, kidneys, lungs, etc., on examination are found to be apparently almost perfect; the only thing we can find is a foul stool. Correct that and local treatment begins to have effect. I had intended to lay stress on the importance of fixation of loosened teeth in interstitial gingivitis. It is absolutely necessary to devise some splint for temporary or permanent purposes.

PHYSICS OF PHYSICAL SIGNS, WITH SPECIAL REFERENCE TO THE RESPIRATORY MURMUR.[*]

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In these days of modern scientific medicine the study of physical signs is not receiving as much attention as it deserves. Scientific medicine stands essentially for two things: accuracy of observation, and the basing of conclusions on facts rather than on assumptions or theories. We view with pride the advances in our knowledge of medicine acquired by work along these lines, and pride is justified when we compare our knowledge to-day with that of even a few decades ago. But we are mistaken if we assume that medicine has already attained the rank of a science, for we have as yet made only a few steps in that direction.

Unfortunately our knowledge of physical signs has lagged far behind many other branches of medical knowledge. It is far from deserving the term "scientific," and it has fallen into disrepute which is more or less well deserved. The scientific investigator avoids this chaos of empiricism and is attracted to other fields in his research work—the more the pity, for we need his help most where the darkness is greatest. And yet this is one of the most important fields of medicine. We must make our diagnosis before our patient is a proper subject for investigation by the pathologist, and the laboratory worker can as yet solve only a few of the troublesome problems of diagnosis. In a large majority of cases we must still depend on our study of the sick patient himself, by the use of our own senses aided by a few instruments of precision.

One reason for the disrepute of physical signs is that we do not sufficiently train our senses to keenness of perception. Again we fail to appreciate fully that these signs are based on the laws of physics, and we are too often oblivious to the distinction between facts and fancy in our explanations. Until we rid physical diagnosis of these defects—imperfect or inaccurate observations; theories in place of facts, explanations that are both illogical and inconsistent with the known laws of science—it deserves the disrepute in which it is held by scientific minds.

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[*] Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Many of these illogical and ill-founded statements are hallowed by tradition. They were accepted by us as matters of course. They have become familiar by frequent use in the practice of medicine and stand in our estimation as established principles or facts chiefly because we have never questioned them critically. How many of them will stand close scientific criticism? The number that fail to meet these requirements is surprising.

Although our recent text-books on physical diagnosis are making some efforts in the right direction, they are still handing on many of these faulty traditions from generation to generation of medical students without even intimating that they are open to question. The text-books are open to severe criticism because they thus fail to discriminate between unfounded theories and established facts or well-grounded hypotheses. It is true that our knowledge of physical signs can not now be reduced to a satisfactory scientific basis, and that there are many problems that the science of physics is not yet prepared to solve. It is true that the medical men are not well enough trained as physicists to solve many of the problems and that the physicists are not working in this direction because they do not know what the problems are and do not realize their importance. We shall need highly trained physicists to help in the solution of many of these problems, just as we are now utilizing the services of highly trained chemists to investigate the problems of metabolism. But there is no need of waiting for this era of the future before making a beginning of our housecleaning. We can at least discard statements that are clearly inconsistent with the simplest principles of physics. In many cases we can estimate the degree of doubt about statements now accepted as truths. If an hypothesis is reasonable enough, we can accept it as such and use it as an aid in the search for truth. In this way we can at least determine more clearly some of the problems we want science to solve.

I believe that this is a most important matter in the future development of scientific medicine—a thing we shall never have until the methods in clinical medicine are scientific. At present we train students in the laboratories of the college and medical school to accurate, critical observation and to logical reasoning in accordance with the laws of science. But when we teach physical diagnosis—the foundation of clinical medicine—we pay little attention to scientific methods.

To illustrate these faulty methods I have chosen the respiratory murmur for consideration, although many other topics would make equally good examples. We are dealing with phenomena of sound. In the text-books the characteristics of the sound or murmur, as heard at various places on the chest, are described with fair accuracy. These sounds are compared as to quality, intensity, pitch and duration. The difference between the inspiratory sound and the expiratory sound at a given place is noted. The recording of isolated facts is fairly well done.

The recognition of two types of breathing sound is the first generalization from these facts and is too obvious to cause dispute, but serious differences of opinion arise as soon as we attempt to explain why there are two types. This leads to questions as to how and where the sound originates; and opinions, theories and assumptions are bandied back and forth by the best authorities with little regard for facts or the laws of physics. And yet the answer to these questions could be determined by experiments more easily than the physiologist learns about the digestive processes.

In the absence of such proof by experimental evidence we have only hypothesis or assumption; we should offer it as such and not as an established truth. For example, there are two opinions as to where the inspiratory murmur originates. According to one, it originates only at the glottis and all modifications are due to changes caused as it is transmitted through the lung tissue. The other opinion agrees that one type of the inspiratory sound originates in this way, but maintains that the second type originates in the minute air spaces of the lung. High authorities may be found in favor of each of these two views, and the question can not be regarded as settled. But often the text-book cites one opinion as if it were an established truth and does not even mention the existence of the other.

When there exists such a difference of opinion among the best authorities this fact should be stated, and the text-books should decide in favor of one view or the other. It should make this decision because in its opinion the view accepted is more nearly in accord with known facts and scientific principles, and it should give its reasons fully. I do not know of a text-book that gives more than an imperfect exposition of this matter. These publications rely chiefly on authority and not on demonstration to prove points.

Neither do any of the text-books discuss intelligently the transmission of the sounds from their points of origin to the surface of the chest. It is but a matter of the applied physics of sound. We can understand it best by adopting the attitude of the physicist. He thinks only in terms of vibrations—of matter in motion. He recognizes the fact that sound vibrations exist at the surface of the chest in association with rhythmic breathing. He asks these questions: What causes these vibrations? Where do they originate? How are they transmitted from the point of origin to the point where they are heard?

If our text-books are to teach physical diagnosis scientifically, they must adopt these same methods and teach the physics of physical signs. In this paper the limitations of time compel me to do exactly what I criticize the text-books for doing—to state my position on doubtful problems without giving reasons. However, as I am now contending for methods of study and teaching and not trying to establish facts, I may be excused for not practicing what I preach.

The answers to the first two questions of the physicist are as follows: The vibrations arise at two places—the glottis and the point where the minute bronchus opens into its air sac. The cause is the passage of air with sufficient force through a narrow opening into a wider space beyond—it being a general principle of physics that under such circumstances the air is thrown into vibration as it emerges into a larger chamber. It is easily understood that the intensity of vibrations at the glottis should be great enough to make them audible, but a word of explanation is needed as to the other source of sound. The immense number of the air sacs which contribute vibrations cause an audible sound when the vibrations from small numbers of the sacs would be inaudible.

We now come to the study of the way in which the vibrations are transmitted from these points of origin to the surface. It will not be out of place to recapitulate some of the principles of the physics of sound that are involved in this study. From the point of view of the physicist, sound is a form of energy, existing in the form of vibrations of matter. These vibrations are of such a character that they are capable of being perceived by the sense of hearing provided they have a sufficient intensity and the rate of vibration falls within certain limits. In studying the transmission of these vibrations, then, we are studying the transmission of a form of motion from one set of particles of matter to another set. If these particles of matter are uniform, that is, if there is a uniform medium, the vibrations will travel in all directions at a uniform rate for that medium, but will lose in intensity as the square of the distance. Different media will transmit the vibrations at different rates and may accordingly be classified as good or bad conductors. Sound vibrations are more or less reflected when in the course of their transmission they come to a boundary between two media. Sound vibrations are also more or less refracted within a medium of uniform consistency but irregular extent. These principles of the reflection and refraction of sound vibrations cause the vibrations to travel more easily within the confines of any anatomic structure than to be transmitted to surrounding structures. Bodies of uniform, elastic structure are especially good conductors. Soft, relaxed tissues, like membranes, which are poor conductors, may become good conductors if they are put on the stretch.

It follows that the vibrations will travel a certain distance in all directions from their point of origin, depending on their intensity at the start and on the conductivity of surrounding tissues. They will travel better and farther in certain directions which will be determined by the anatomic shape, the consistency, elasticity and tension of the structures that are thrown into vibration.

Let us consider first the vibrations originating during inspiration in the air sacs. They originate throughout the lung structure. They have intensity enough to be transmitted to the overlying chest wall, if it is in direct contact with the lung tissue, and will be carried by an ordinary chest wall to the surface with intensity enough to be heard by the ear. The intensity, however, is not sufficient to carry the vibrations on the surface far beyond the anatomic limits of the lungs, nor can they reach the surface if anything intervenes between the lung and the chest wall.

In case of vibrations originating at the glottis during inspiration the problem is a little more complex. There are two sets of vibrations—those originating in the air column itself and those originating in the vibrating vocal cords. The vibrations in the air column will be transmitted down the air of the air passages as in a speaking tube and the vibrations from the vocal cords find their best line of transmission along the walls of the air passages. Both these lines of transmission (air conduction and tissue conduction) are good so long as the bronchi are of moderate size and have stiff walls. In other words, the glottic vibrations are conducted throughout the inner part of the lung as far as the smaller bronchi extend. Between this point and the surface lies a more or less thick layer of lung parenchyma, which with its minutely divided air spaces is a poor conductor of vibrations. The glottic vibrations are distinctly audible at the surface over a thin layer of lung and the intensity diminishes with the thickness until it entirely fails to penetrate the thickest part, where we hear only the vesicular murmur. At intervening points we get a combination of the two types of breathing sound, and the predominance of one or the other is determined at any point by the anatomic relations beneath.

Let there be a little thickening of the lung tissue—as in the earliest changes of tuberculosis—and the laryngeal sounds are better conducted through the lung. The laryngeal element is found to be stronger than it normally would be at that point. This increases in proportion to the density of the lung tissue until with a solid area of the lung extending from the surface to the bronchi we get pure bronchial sounds.

Let us now consider the expiratory murmur. During expiration no suitable conditions exist in the lung parenchyma to cause audible vibrations and the vibrations come only from the glottis. Here the air is thrown into vibration as it rushes from the glottis into the pharyngeal space above, but these vibrations are practically all cut off by the vocal cords from reaching the air passages of the lung. The audible vibrations, therefore, come almost exclusively from the vibration of the vocal cords. These vibrations are transmitted (as in the case of inspiration) by tissue conduction through the walls of the air passages to the interior of the lung. They have not volume enough easily to penetrate the lung tissue. When, however, at the beginning of expiration the lung tissue is on the stretch these vibrations are faintly audible at the surface, but they become inaudible as soon as the lung loses this tension. The result is that over the thicker lung tissue the expiratory murmur is only a short puff at the beginning of expiration.

Let the lung tissue be slightly thickened, as in early tuberculosis, and there is better conduction of vibrations through it. The expiratory murmur is a little louder and longer. This increases with the density of the lung until with a consolidated lung there is a full bronchial expiratory sound.

With such an explanation of the respiratory murmurs, based on a consideration of the physics of the vibrations in the lung tissues, one gets an understanding of the complex combination of sounds in health and readily translates the variations that come with disease into terms of changes in the texture of the lung tissue. This is the real aim of auscultation of the respiratory murmur—to learn the texture of the lung tissue.

I do not claim that this explanation of the respiratory murmur is necessarily correct. It is based on hypotheses, not on facts proven by experiment, but it is consistent with the laws of physics and offers an intelligent basis from which to carry out further investigations which will confirm or disprove it. It is by steps of this sort that we shall advance to the truth, shall remove the opprobrium from which physical diagnosis now suffers, and shall introduce scientific methods into clinical medicine.

DISCUSSION.

Dr. George N. Jack, Buffalo: Many cases of asthma have been sent to me diagnosed as bronchial asthma. On careful investigation I would find the obstruction to be confined wholly to the common air tube, the bronchi being entirely free of all râles or signs of obstruction. As the condition in the larynx would clear up the dyspnea and wheezing would disappear. I know of no other way to explain how through all ages asthma could have been classed as a nervous spasm unless the mistake was due to the transmission of sound from the trachea-larynx to the bronchi. The condition is not a nervous spasm, but is due to an obstruction in the air tubes. For the last ten years I have alone maintained that asthma is not due to a nervous spasm of the air tubes, and very recently Gee of Oxford (in the Gee Medical Lectures, 1908, pages 140 and 160) has taken the same stand. The real or severe dyspnea of asthma originates from a plugging of the common air tube which no one would accuse of spasmodically contracting. When the obstruction is in the smaller bronchi and the common air tube is open, asthmatics will breathe quite freely with little dyspnea; in fact, they can at such times exert themselves with little dyspnea when the chest is full of râles of all sorts as the numerous small bronchi are never all plugged at the same time. Can there, then, after considering the facts in regard to respiration that Dr. Arnold has brought out, longer be any excuse for asserting that a wheeze that can be heard clear across the street can come from the small bronchi way down in the chest?

Dr. Henry Sewall, Denver: I believe that the terminology used in expressing the findings of a physical examination, such as calling the sounds heard "moist" or "dry," is too much restricted to denoting the subjective impressions aroused, which differ for every examiner, and too little descriptive of the objective physical conditions in the field. It is highly desirable that our armamentarium be enriched with devices which shall limit the range of the personal equation. Some years ago I carried on some experiments in this field with interesting practical results. It will be admitted that the sounds perceived in auscultating the chest owe their intensity to two sources: first, the vibrations of the tone-producing body, which may be conducted to the ear according to known physical laws; and, second, sympathetic vibrations which depend on the elastic properties of the media surrounding the vibrating body and which more or less reinforce the original vibrations; indeed, in certain sound productions, as in human vocalization, the resonance sounds far outstrip in intensity the unaided vibrations that give them birth. To be brief, the resonance tones of the chest wall can easily be damped and deadened. The remaining sounds are those that come by direct conduction from the vibrating body. This feat can be achieved by use of the ordinary binaural stethoscope having only air conduction between the bell and the ear tubes. Apply such a stethoscope over the aortic area and the second sound of the heart may be heard of great intensity. If the bell of the instrument be now pressed firmly into the second right interspace the sound nearly or completely dies away. That is, the second sound, as heard in the aortic area, owes its intensity to sympathetic vibration of the chest wall. On the contrary, if the stethoscope is applied to the area of the cardiac impulse, where the vibrations are conducted directly to the instrument, no amount of pressure does away with the heart sounds. I have found in "stethoscopic pressure" perhaps the most accurate means of outlining the borders of the heart, a feat which is frequently so difficult. It is interesting to observe that an instrument depending wholly on air conduction is necessary to the success of this method. If the original wooden, monaural stethoscope is used, increase of pressure, for example, in the aortic area, does not deaden the sound, for reasons that are obvious.

Dr. H. D. Arnold, Boston: The object of my paper is to stimulate the clinician to think. To-day men should be more imbued with the spirit of scientific research and scientific thought; then they would work and make some advance in the study of disease, the same as the laboratory workers had done, and then they would be a greater credit to modern medicine.

REMISSIONS IN PERNICIOUS ANEMIA.[*]

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It almost requires an explanation for presenting any phase of a subject that has been considered so extensively in recent years as pernicious anemia, but the phenomena of remissions form a sufficiently interesting chapter in the disease to warrant its being made the theme of this brief paper.

A remission signifies but an abatement of symptoms, and so rarely does a complete restitution take place that it is to be regarded as a temporary period of improvement and not a cure. The earlier writers who coined the term progressive pernicious anemia evidently did not give due cognizance to the phenomena of remissions, because a disease process that is subject to remissions of improvement, or periods of latency, can hardly be regarded as distinctly pernicious; the term progressive is applicable in that it is not possible to bring the process to a standstill or promote a cure.

Out of a series of twenty-five cases seen during the last two and a half years I have taken a few striking instances as illustrative of remissions in pernicious anemia.

Case 1.—*History.*—C. W., a laborer, aged 53, was admitted April 8, 1907, to the University Hospital, complaining of weakness and pain in the legs. He was a moderate user of alcohol but denied venereal infection. The family history was negative. Three years previously he had had a fainting attack after which he was confined to bed for six weeks. In December, 1906, he began to notice weakness and pain in the legs which had grown slowly worse.

Examination.—When admitted the patient appeared very anemic and poorly nourished. The legs were weak and he was unable to stand alone. The knee jerks were diminished and there was paresthesia and a mild degree of ataxia in lower limbs. Urine examination was negative. Gastric analysis showed total acidity 35, free hydrochloric acid 10. The blood findings, with subsequent changes, are indicated in the following table:

TABLE 1.

Date.	Red cells.	White cells.	Per cent Hb.	Poikilocytes. Macrocytes. Microcytes.	Nucleated red cells.	Polymorphonuclears. Per cent.	Lymphocytes. Per cent.	Large mononuclears. Per cent.
4- 8 07	860 000	6,400	40	++	1 normobl. 2 megalo.	64	30	6
4-10 07	945,000	4,600	20	++	....	63	35	2
4-13 07	556,000	2,200	30	++	1 stippled. 1 megalo 2 normobl.	61	36	3
4 21-07	710,000	2,600	35	++	....	48	50	2
5- 2-07	1,320,000	6,800	35	mod.	....	67	26	7
5-16-07	2,390,000	5,600	40	few.	3 normobl.	69	27	3.5
5-24 07	3,090,000	2,000	40	....	....	65	33	2
7- 7 07	3,350,000	2,700	48	....	....	61	33	6
8-23 07	3,580,000	9,600	45	....	....	82	17	1
9-27-07	3,720,000	9,800	55	few.	.. ..	83	16	1

Treatment.—At the time of the last blood examination the patient was able to walk anywhere without support, and generally felt well. The medication consisted principally of some form of arsenic. During the first three months of his stay he tolerated the drug very well, taking as much as 15 minims of Fowler's solution three times daily. Later an intolerance was manifest and only small doses, 3 to 5 minims, could be taken. The cacodylate of sodium was substituted, but even small doses of this preparation would lead to digestive disturbances, albuminuria, and puffiness of the face, compelling a discontinuance of the medicine. Although unable to take arsenic during the last three months of his stay, the improvement in his condition steadily continued. Gastrointestinal symptoms were not present, except such as were evidently due to arsenic administration, and colonic irrigation was not a part of the treatment.

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[*] Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Subsequent History.—It became necessary to return the patient to the county farm in Iowa County about Oct. 1, 1907, where he continued to do well for several months, when he grew gradually worse and died in March, 1908. Unfortunately subsequent blood analyses and an autopsy examination were not obtained.

Case 2.—*History.*—P. J., a farmer, aged 45, admitted to the University Hospital June 22, 1907, complaining of general weakness. Patient was married, had a family of five children, was a moderate user of alcohol, but denied venereal infection. The family and medical history were negative. In the summer of 1906 he complained of weakness in the back and shortness of breath. He continued to work until April, 1907, when he contracted a cold, coughed a great deal, but had no fever or pain. Shortness of breath became so marked that he had been unable to work on account of it and because of general weakness. He had occasional nausea and vomiting but no loss in weight.

Examination.—When admitted he was very anemic, skin of a lemon-yellow tint, scleræ icteric and mucosæ very pale A hemic murmur could be heard over the precordium. The spleen was palpable. His extremities were weak and the ankles and feet swollen. The blood findings are shown in the following table:

TABLE 2.

Date.	Red cells.	White cells.	Per cent. Hb.	Poikilocytes. Macrocytes. Microcytes.	Nucleated red cells.	Polymorphonuclears. Per cent.	Lymphocytes. Per cent	Large mononuclears. Per cent.
6-22-07	1,470,000	860	60	++	....	60	35	5
6-24-07	1,730,000	1,600	45	++	....	62	34	4
6-27-07	1,430,000	2,000	40	++	1 normobl.	64	33	3
7- 5-07	1,910,000	2,400	50	polychromasia +	....	66	29	5
7- 8 07	2,110,000	4,200	40	mod.	....	67	28	6
9-27-07	3,190,000	3,400	60	mod.	....	68	26	5
10- 2-07	4,050,000	4,600	65	few.	....	68	28	4

Treatment.—During the three weeks' stay in the hospital he apparently improved. He returned to his home to be under the care of his family physician, Dr. H. A. Powers of Emmetsburg, Iowa, who lived nine miles from his home, so that he was only able to see him about once every week or ten days. The medication was confined to Fowler's solution, but he was never able to tolerate a larger dose than 10 minims three times daily. He gradually improved, and when he returned the latter part of September, 1907, to the hospital for a second examination, his general appearance was in keeping with the improvement shown by the blood examination at this time. He appeared well and claimed to be able to do full farm work without becoming tired, and aside from an occasional swelling of the feet in the evening he suffered no discomfort.

Subsequent History.—After returning home the patient continued well during the winter, but since March, 1908, he has gradually lost strength and is now confined to his house and unable to carry on any kind of work. I am indebted to his present attendant, Dr. Baldwin of Ruthven, for some carefully prepared slides of his blood, and from these I have estimated that a marked deterioration has taken place in his blood, since the examination last October, as poikilocytes, macrocytes and microcytes are numerous, and normoblasts are present to an extent of 0.6 per cent.

Although the serial blood analyses are incomplete, it seems appropriate to refer to a third case.

Case 3.—*History.*—W. J. W., a retired farmer, aged 64, was admitted to the University Hospital April 3, 1906, complaining of general muscular weakness and shortness of breath. The patient did not use alcohol and denied venereal infection. The family and medical history were negative. About ten months preceding entrance he began to lose strength, and experienced shortness of breath on exertion, which gradually became more marked.

Examination.—Physical examination revealed a marked pallor of skin and mucus membranes. The spleen was not enlarged but the extremities were very weak and the muscles soft and diminished in size. He was unable to walk without support. Reflexes and sensation were normal. The condition of the blood is indicated in the following table:

TABLE 3.

Date.	Red cells.	White cells.	Per cent. Hb.	Poikilocytes. Macrocytes. Microcytes.	Nucleated red cells.	Polymorphonuclears. Per cent.	Lymphocytes. Per cent.	Large mononuclears. Per cent.
4- 3-06	690,000	4,800	30	mod.	1 normobl.	46	52	1.6
4- 8-06	600,000	4,000	20	mod.	1 normobl.	42	56	2.0
4-13-06	520,000	4,800	12	mod.	....	44	54	2.0
4-18-06	600,000	3,900	25	mod.	1 normobl.	39	59	2.0
5- 2-06	580,000	5,900	11	mod.	....	39.2	59.2	0.8

The blood findings show an unusually low count during the month's stay in the hospital, the leucopenia being only of moderate degree, with a marked increase in the percentage of lymphocytes and mononuclear leucocytes, the entire blood finding being suggestive of Ehrlich's aplastic type of pernicious anemia with possible lymphoid hyperplasia of the bone-marrow.

Treatment.—The patient did not bear arsenic well, being unable to take the smallest doses. Red bone-marrow, colonic irrigation and rest in bed, formed a part of the treatment without influencing the disease process in any way, and his condition when leaving the hospital was not improved. His home physician was an enthusiast on the therapeutic virtues of a remedy called "goat's lymph" and applied it, he claimed, with apparently good results, as the patient became strong enough to walk about the town, attended to most of his business duties and enjoyed fairly good health.

Subsequent History.—Six months later he again began to decline and died in February, 1907. During the period of temporary improvement the home physician received much praise while the former attendant was given a blessing of a different kind.

OTHER CASES IN THE SERIES.

Of the series of cases referred to in this paper one patient drifted into the care of a Christian Science "healer" and another underwent the manipulations of an osteopath — both patients having very low blood counts. In each instance the treatment was followed by a remission of improvement, a fact which permitted the healing measure applied at the time to receive all the credit of the apparent cure. A number of the further remissions were observed in other cases, occurring under a variety of conditions, but in no instance could the improvement be attributed to any one definite therapeutic measure.

In the first case mentioned the change of the patient from the county farm to the hospital, with the improved hygienic and dietary condition, was no doubt a strong factor. The second patient was treated at home where the conditions were unfavorable for frequent medical attendance. Improvement in the series occurred with and without the use of arsenic.

In several instances where fermentative changes in the intestines were a prominent symptom, high colonic irrigation with normal salt solution seemed to be connected with remissions of improvement. One case of the aplastic type, which was subsequently confirmed at autopsy, resisted all measures of treatment and became progressively worse. In a baby 10 months of age, with the blood picture of pernicious anemia, improvement followed the weaning and institution of a proper milk diet.

A certain parallelism is maintained between the changes in clinical signs and blood findings, the blood condition being usually a fair index of the degree of improvement in the patient and also of the reactive changes in the hematopoietic organs, especially the bone-marrow.

Barjon and Cade and other French writers lay much stress on the value of the syndrome "leucopenic-lymphocytose" in diagnosis and prognosis. The disappearance of the leucopenia and modification of the leucocyte formula suggests improvement and lessens the gravity of the prognosis; quantitative and qualitative changes in the erythrocytes being equally indicative of improvement. While Ehrlich, Lazarus, Bloch, Stengel, Senator, Stockton, Cabot and other observers have referred to remissions as characteristic of pernicious anemia, there have been very few who have been able to bear out the enthusiastic claims of Grawitz, who has reported several instances of cures or complete restitution of the blood to its normal state.

CLINICAL AND EXPERIMENTAL PERNICIOUS ANEMIA.

Although the blood undergoes a marked improvement in the remission period, it still preserves certain abnormal features indicating that a disturbance in hemogenetic function continues to exist. In this respect the experimental pernicious anemias produced in rabbits differ from the disease occurring in the human person. In using 0.5 mg. doses of the glucosid saponin and 0.02 mg. doses of ricin (a toxalbumin from the seed of the castor-oil plant) to produce pernicious anemia in rabbits—corroborating the work of Bunting—I found in several instances not only does an animal become tolerant to the toxin, especially with saponin in small doses, but if the toxic agent is discontinued the blood gradually returns to the normal and a complete restitution takes place, all of which is in keeping with the statement of Bloch that certain predisposing conditions exist in the hematopoietic structures of the human species which favor the production and persistence of pernicious anemia in man.

An analogy exists between pernicious anemia and leukemia in that both are liable to remissions of improvement, both are evidently of toxic origin and associated with changes in the bone-marrow.

At best a remission is but an apparent cure, and the practical point that suggests itself is the need of reserve in prognosis and caution in interpreting the results of various therapeutic measures—as the most promising are frequently unstable, meaning an amelioration more often than a definite cure.

That pernicious anemia is an expression of a toxemia —probably enterogenic in origin—is borne out by clinical studies and experimental demonstrations, so that care of the digestive tract is a special factor in the treatment of all cases. The recent work of Herter attributing etiologic significance to specific fermentations in the intestinal tract is very suggestive and it will be of interest to learn further about his series of cases in which the treatment consisted of the removal by colonic irrigation of the *Bacillus aërogenes capsulatus* from the intestinal tract.

While the present lack of etiologic unity prevails it is evident that the explanation of the remission phenomena and the finding of a definite curative measure are problems still to be solved.

DISCUSSION.

DR. CHARLES G. STOCKTON, Buffalo: Flint, many years ago, pointed out that in pernicious anemia a disappearance of secretions and ferments from the stomach, and the etiology of the disease was laid to a gastric atrophy. As time went by all gave up Flint's idea. It is a remarkable fact that he made the observation, so long ago, of the disappearance of the gastric secretions and ferments in the majority of cases of pernicious anemia. The secretions do not disappear in all cases, as has been pointed out to-day. In the cases that I have studied, and they amount to a considerable number, after a true remission I have not found a corresponding improvement in the digestive tract. There has been an improvement in certain cases; but those cases in which there was a great improvement in the gastric secretion were never cases of achylia gastrica, but seemed to be cases on the border-line; also the anemia turned out not to be true pernicious anemia. I think that we should be somewhat guarded in our classification of pernicious anemia. Cases that were formerly called pernicious anemia we hesitate to name. On the other hand, cases formerly called secondary anemias are now classed as pernicious anemia, and to that class belong the cases reported to-day. I have known these remissions to continue over a long period of time. One of the most typical cases I know of, lasting ten years, was followed by a remission which, so far as I know, still continues. I heard from this patient one year ago; he reported himself to be in perfect health. The blood count was very low and in every way the case was quite classical. I recall another case, that of a woman, who had four or five remissions, never severe but typical. These four or five remissions covered a period of eight years. These, however, were exceptional cases. From a clinical point of view these cases appear to be cases of pernicious anemia. There are few diseases that we seem to know better than this disease and yet its real nature remains obscure. As to the remedies bringing about remissions, I believe in a course of treatment not only by arsenic and hydrochloric acid, as recommended by Dr. Dock, but by colonic lavage and hygienic measures. I have seen patients get better who did not follow this course of treatment, yet I feel confident that good is accomplished by it.

DR. WILLIAM S. THAYER, Baltimore: I have seen one case of apparent recovery; this case was very similar to the one reported by Dr. Stockton. The patient was in Dr. Osler's ward in 1890, and presented the classical picture of pernicious anemia. The lowest blood count was 800,000 and the patient had a high color index, as well as poikilocytosis. After three or four months' treatment the blood count rose to 5,000,000 and over, and the patient left the hospital apparently well. Five years later the man came back again with all the signs of a carcinoma of the stomach. The blood then was absolutely normal. He soon left the hospital and I have never been able to get word from him since. Last year I saw a second case in which the blood appeared perfectly normal. This patient entered the hospital in May, remained two or three months and made a remarkably rapid recovery. The blood count was over 5.000,000 and the entire picture of pernicious anemia disappeared. The patient died in February.

DR. ALFRED STENGEL, Philadelphia: My experience has been that the more cases I see the less certain I am in making an absolute diagnosis of pernicious anemia. During the past two or three years I have seen a series of cases in which the blood picture was that of pernicious anemia, yet they differ so in their clinical course and in other respects, that I doubt whether I have made a correct diagnosis. In many of these cases there were evidences of intestinal disturbances. In one case there was a slight but continuous bleeding from the intestinal tract; the stools were constantly tinged with blood and the loss of blood in the aggregate must have been great. In another case the stools swarmed with infusoria which I could not identify. In three cases slight hemorrhages occurred, and these were occult in the stools. In another instance there were evidences of putrefactive changes in the feces. These cases all ran a typical course. All showed a rapid improvement when given intestinal lavage with simple water and instillations of nitrate of silver. All, however, relapsed eventually. Three or four patients have since died. The blood picture in these cases was largely that of pernicious anemia, but not sufficiently so as to make, in my mind, a diagnosis absolutely certain. In some of these cases the picture presented was typically that of pernicious anemia. In several cases remissions occurred from time to time. One case under my care for a year or two at one or another hospital, has been treated at either the Pennsylvania or University Hospital during the past eight years, entering nearly every year. The patient has been under my care not less than three times. He presented a typical picture of pernicious anemia: there was no mistake in this case. With regard to the treatment, arsenic relieved many of the attacks. I have known of one case, which I reported, that has been under my care four different times in four different years with relapses. These relapses, as Mackenzie has said, running over a period of years, are not infrequent. An important point in drawing deductions is to learn to differentiate between the intense anemias, anemias especially of the pernicious types, and cases of genuine pernicious anemia; but how to draw a border line in these cases I do not know.

Dr. W. M. McCabe, Nashville: I believe that if Dr. Herter is correct in his theory that pernicious anemia is due to anaerobic bacteria in the intestinal canal, then intestinal lavage is the proper treatment. I had a patient under my care at the City Hospital, in the service of Dr. John A. Witherspoon, with a leucocyte count of 3,000, an erythrocyte count of 1,500,000, hemoglobin index 1.5 per cent., nucleated red cells, etc. Appendicostomy was performed and the colon was irrigated twice daily with two gallons of saline solution. Several weeks after this treatment was begun the leucocyte count was 7,000, red cells 3,200,000, hemoglobin index 0.9 per cent., and no abnormal types of cells were present. It is especially interesting to note that examination of the stomach contents showed lactic acid in large quantities and an absence of free hydrochloric acid. This would be frequently examined to see if the free hydrochloric would return. At operation the stomach was examined and found somewhat contracted. No cancer was present.

Dr. Hugo A. Freund, Detroit: As a rule we should give a good prognosis in a given case of pernicious anemia, that is, for a relative length of time. All cases that I have seen came to me with a distinct and definite picture, but there were some cases, only a small number, that showed a rapidly progressive type. These are best described as primary progressive cases. I believe that the general practitioner should give a good prognosis in all the cases he meets, but only for a relatively short length of time. The influence of treatment is only relative; experience with these cases shows that but little difference is made whatever treatment is employed, whether by arsenic, hydrochloric acid, pancreatin, goat's lymph, osteopathy, Eddyism, or what not; all have been useful at times, however. There is a time when patients have blood crises, or blood showers; this I have noticed on many occasions. It has been asserted that when these showers occur dissolution is soon to follow. In a large number of cases watched at the University Hospital at Ann Arbor death did not follow; and these blood showers occurred in a large percentage of the cases. What does it mean? Probably it is an attempt on the part of the bone marrow to regenerate. If the body is attempting to restore the normal function of the blood it seems to me this is a propitious moment for such a restoration, and the giving of arsenic at this time is usually followed by beneficial results Some of these patients persisted in a good state of health for a long time. I recall one case under observation for eleven years; I still hear from this patient and there has been no return of the symptoms. With these showers a low blood count has been noticed; cases have been reported of a low blood count, in which there has been a decided improvement following treatment; the patients get well. Some of these are remarkable cases. In these showers there usually occurs a larger percentage of red cells per centimeter than white cells. Lymphocytosis is an interesting phase in this disease; an increasing lymphocytosis was prognostic of dissolution.

Dr. John A. Witherspoon, Nashville: I had a patient, a man, 35 years old, who had a typical pernicious anemia so far as the symptoms and blood findings were concerned. I have always hesitated in advising appendicostomy and colonic irrigations; I have generally been able to get along without it. In this case, however, I believed it wise to give it a trial. The result was that, with a patient evidently rapidly approaching dissolution, the man gained ten pounds in weight during the last ten days, and has made a marvelous improvement. Whether this improvement will be permanent or not I do not know; but it is a remarkable fact that in this case, with the patient progressively going to the bad, and apparently with but a short time to live, I should have such an excellent result from the use of colonic irrigations of normal saline solutions given twice a day; the recovery was certainly a rapid one. The fact that this patient gained ten pounds in weight in such a short time is good evidence at least of marked improvement in his powers of digestion. I shall try to keep in touch with this patient and report further in the journals. I am prejudiced against appendicostomy.

Dr. Jesse S. Myer, St. Louis: I have a patient, a man 60 years of age, who has been under my observation for over a year. He came to St. Louis from Georgia in a state of perfect collapse. He had the most marked degree of anemia that I have ever seen. There was anasarca, dyspnea and the typical picture of the blood of pernicious anemia. The intestinal symptoms were very marked, and characterized by a severe and persistent diarrhea. Because the patient came from Georgia, where there are many cases of infection with *Anchylostoma duodenale*, and because of the marked intestinal symptoms, with traces of blood in the feces, with a blood picture of pernicious anemia, I felt justified in instituting the regular specific treatment for *A. duodenale*, even though I was not successful in demonstrating the existence of the eggs in the stools. Thymol was given in large doses and the improvement was so marked that in one month the patient was able to return to his home and resume his duties. At the end of six months, however, he reported that he was in a similar condition. His physician resorted to thymol again, but without any effect whatever and the patient died. The apparent response to treatment for infection with *A. duodenale* simply proved to be a coincident remission in the symptoms of pernicious anemia described by Dr. Bierring.

Dr. Walter L. Bierring, Iowa City: Dr. Stockton's statement that in remissions of improvement in pernicious anemia there is no return of the free hydrochloric acid in the gastric juice corresponds with that of Grawitz, who firmly believes in the possibility of a complete cure in pernicious anemia, and has reported two cases, one of five and the other of eight years' standing, in neither of which was there a return of the free hydrochloric acid in the gastric secretion, indicating that a complete restitution to the normal had not taken place. The view expressed by Dr. Stengel that a number of similar conditions are met in which a pernicious type of anemia prevails is very apt—as evidently such states as aplastic and metaplastic anemia, chloranemia, and severe instances of secondary anemia, are closely related, all being dependent more or less on changes in the bone marrow, resulting from toxic influences acting on this tissue and other hemopoietic structures. True pernicious anemia of the Biermer type is not as common as generally believed; in fact, it is a rather rare disease. Its greater frequency in later life supports the view that changes take place with age in the hemopoietic structures which predispose to the production of this disease.

The suggestion of appendicostomy as a therapeutic measure to facilitate the irrigation of the colon is very interesting. While colonic irrigation certainly influences toward improvement this does not mean that every case of pernicious anemia is necessarily colonic in origin. The uncertainty of our knowledge of the etiology, toxic agent and portal of entry makes it difficult to judge properly the merits of the different methods of treatment that are proposed in this disease.

Spermatocystitis.—N. E. Aronstam, in *Central States Medical Monitor*, states that spermatocystitis or seminal vesiculitis, as it is sometimes styled, is the most difficult pathologic condition to treat in the domain of genitourinary surgery. Not much time should be lost in internal medication, but the affection should be attacked from its very seat by manipulations, sounds and frequent irrigations. Even these measures may effect no results. Under these circumstances we must resort to a vasectomy.

PELLAGRA.

ITS OCCURRENCE IN THIS COUNTRY; REPORT OF CASES.*

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Pellagra is a trophoneurotic disease, affecting the cerebrospinal, digestive and cutaneous systems and characterized by an erythema. The immediate cause of pellagra is a fatty oil or extractive, called by Lombroso pellagrozein, that develops in fermenting and decomposing maize. This extractive is probably formed under the influence of a fungus. Poverty and unhygienic surroundings are predisposing causes, and most cases probably occur among the agricultural class, because they raise maize and eat it as a regular daily diet. Women are more often attacked than men, and children less often than adults. The disease occurs more often in patients between the ages of 30 and 50. As the erythema selects those portions of the body exposed to the sun's rays, it is more than probable that exposure to the sun is a factor in its development.

Belmondo believes that the disease is due to a specific organism. Lombroso experimentally produced in men and animals, with an extract from decomposed maize symptoms, analogous to those of pellagra. In Egypt pellagra occurs only where corn is eaten.

After a careful inquiry among farmers in regard to corn, I found the following facts:

1. Corn that is allowed to mature on the cob does not ferment or decompose after being gathered, and is suitable, as food, both for men and animals.
2. Corn gathered before maturing on the cob always ferments and decomposes. This process of fermentation is called "heating," and that of decomposition "rotting."
3. If this decomposed and fermented corn is fed to animals (except swine), it produces a condition called "blind staggers," which is accompanied by a severe diarrhea and inability of the animal to stand. It staggers from side to side, and is apparently blind. This disease is very fatal, 98 per cent. of the animals attacked dying, and if the animal passes through the acute attack, it is spastic and never able to work again, because of stiffness of the limbs. That the acute attack is analogous to acute pellagra, and the chronic condition to chronic pellagra, is probable.
4. Farmers have learned never to give decomposed corn to their stock. When visiting other people, some farmers will not eat bread or grits, for fear of it being made from decomposed corn.
5. The extreme end of the cob, which often projects from the end of the shuck, always decomposes, and farmers cut this off before throwing it into the bin.
6. When corn is planted, the farmers watch the hills, and if any fail to grow, they are replanted. In this way, when harvest time arrives, there is some corn not mature, and if it is used in this condition there is danger of the other corn becoming contaminated by it. The better class of farmers eliminate this corn, or leave it until it matures. In spite of this, some decomposed meal is marketed. When mixed with good meal, it is scarcely noticeable, and is sold at reduced prices to the very poorest. In this way, we account for the occurrence of pellagra.

Prior to 1907 pellagra was not recognized as occurring in the United States. During that year, Dr. G. H. Searcy[1] reported eighty-eight cases of acute pellagra occurring at the asylum for the (colored) insane at Mount Vernon, Ala. This epidemic was very fatal, 64 per cent. of the patients dying. The maize eaten at this institution was found to be decomposed and unfit for food.

A sporadic case was reported by Dr. T. C. Merrill[2] of Colorado, Texas, in September, 1907.

Dr. J. W. Babcock, of Columbia, S. C., reported to the State Board of Health nine cases of pellagra. Three of these cases were complicated by hookworms, and treatment for this condition helped them.

Besides the cases which I report, a half-dozen more have occurred in my community. That this disease has been occurring there for many years there is little doubt, as a careful inquiry among older physicians brings to light many unrecognized cases.

PATHOLOGY.

There is fatty degeneration of the liver, kidneys, spleen, and myocardium; atrophy of the muscular coat of the intestines, and sometimes ulceration; atrophy, sclerosis and pigmentation of the skin; pigmentary degeneration of the cells of the brain, cord, liver, spleen, kidneys and heart; sclerosis of the crossed pyramidal tract in the dorsal portion; and degeneration of the column of Goll, in the median portion.

The posterior roots usually escape. Lombroso found Burdach's column and the posterior roots sometimes affected. There is, generally, involvement of the membranes of the brain and cord, with much thickening. The abdominal viscera are usually atrophied.

SYMPTOMS.

Chronic Form.—The symptoms begin in spring, with lassitude, headache, and anorexia. The epigastrium is usually tense, and there may be nausea and vomiting. Diarrhea—serous in quality—soon follows. This may be very severe, numbering ten to forty stools a day. The tongue is inflamed, red and smooth. In ten days to two weeks, as a rule, there develops an erythema, confined to those portions of the body exposed to the sun. The parts most usually affected are the backs of the hands; next, the backs of the hands and forearms, elbows, face and neck, in the order named. Those who go barefooted usually have the erythema on the backs of the feet. The back and chest may be affected, but this is rare. Sandwith's Egyptian cases showed the elbows and forearms often involved. The erythema is usually bright red in color, very like sunburn, and disappears on pressure, unless hemorrhagic. There are often vesicles and bullæ, but there is little itching and burning compared to the extent of the process. Generally, in two weeks from the beginning, the erythema subsides, becoming brown in the center, and desquamation takes place, leaving a thickened, rough and brownish skin. After repeated attacks, the skin becomes sclerosed and pigmented and finally atrophies.

Application of salves and washes to the erythema does not benefit it. It seems to run a regular course, and if left alone, disappears earlier than if treated. The diarrhea is particularly stubborn, and will not yield. There is not the burning nor itching that is seen in other erythemas; for instance, genuine sunburn.

Toward late summer, the patient begins to improve, and may feel perfectly well during the winter, until the next spring, when a recurrence takes place, with greater or less severity.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Searcy, George H.: Epidemic of Acute Pellagra, The Journal A. M. A., July 6, 1907: xlix, 37.

[2] Merrill, T. C.: Sporadic Case Diagnosed as Pellagra The Journal A. M. A., Sept. 14, 1907, xlix, 940.

After the third recurrence, the patient usually becomes much emaciated: diarrhea increases in severity, and melancholia, increasing to dementia, occurs. There may be edema and foul sweats. Paralysis of the third nerve and changes in the fundus oculi have been observed. There may be epileptiform convulsions, paresis of extensors, and paralysis of the bladder. The knee jerks and all reflexes are much increased early in the disease, but toward the end they are either diminished or abolished. There is no albuminuria as a general rule, and ankle clonus is rare. Blood changes are unimportant. The disease lasts five years, on an average, but may be prolonged fifteen years.

Acute Form.—This begins with pain in the epigastrium, headache, nausea and vomiting. This is followed by a severe diarrhea and stomatitis. The stools are often bloody, and occasionally there is bleeding from the gums and tongue. The patient emaciates rapidly. The erythema follows the same course as in the chronic form. There is some elevation of temperature, but not higher, as a rule, than 102 F., usually ranging between 99 and 101 F. There is delirium and a typical typhoid course, which usually ends in death in ten days or six weeks. I have never seen a patient recover.

I have ten cases of pellagra to report; three of these are of the chronic form, and seven of the acute.

CHRONIC CASES.

Case 1.—*Patient.*—Miss L., white, aged 45, American born, family history negative.

History.—The patient had enteric fever at 20 years of age, and malaria several times. She has never been strong, but fairly healthy as a rule. She does not use alcohol, and there is no history of syphilis. She uses snuff, moderately. During March, 1907, she had headache and some distress in the epigastrium, and vomited occasionally. This was soon followed by a severe diarrhea, which was painless, and serous in quality. She became much emaciated and very weak. In early part of April an erythema developed on the backs of hands and lower part of forearms. This was much like sunburn. Very soon a few bullæ and vesicles formed. There was very little burning or itching.

Examination.—The patient's tongue was red, smooth and painful. Her temperature was normal; pulse 100 to 120. The heart and lungs were negative; abdomen flat, and nothing abnormal on examination. The pupils were equal and reacted to light and accommodation. The reflexes were much exaggerated, and there was no ankle clonus. Urine contained neither albumin nor sugar, but an abundance of indican. Examination of the blood revealed a well-marked secondary anemia, no abnormal cells, and absence of leucocytosis.

Course of Disease.—The erythema persisted for three weeks; then the skin became much thickened, with a brown hue, and exfoliated, leaving a rough, thickened brown skin beneath. The diarrhea continued through the summer, during which time the patient was very weak, and became much emaciated. She was much depressed, and cried often. In October, 1907, she seemed perfectly well. In April, 1908, she had a recurrence. She is now in the country, and her symptoms are much more severe than they were in the original attack.

This patient lived on a farm with a niece. Her corn supply gave out in December, 1906. She bought corn elsewhere, and used this during the winter and spring. Her niece, who lived with her, did not eat corn in any form, but patient did so daily. An examination of this corn showed that it was unfit for food.

Case 2.—*Patient.*—Mrs. D., widow; aged 56; American born, family history negative, except that one brother had tuberculosis.

History.—The patient was never a very strong woman, but had no sickness of note. She never usd alcohol and had no syphilitic history. She felt bad during February, 1907; was often nauseated, and had no appetite. A severe diarrhea began in March, 1907, and was accompanied by stomatitis, the tongue being especially painful. An erythema confined to the backs of the hands developed in a few days. This was like sunburn, and there were a few bullæ and vesicles. She was much emaciated, and starved herself because of diarrhea.

Examination.—The patient's temperature was 98.4, pulse 110. Heart and lungs were negative; the abdomen was flat, with some tenderness on pressure. The abdominal viscera were negative. The urine contained neither albumin nor sugar, and blood showed secondary anemia.

Course of Disease.—The erythema subsided in a month, leaving a brownish, thickened, rough skin. The patient had diarrhea continuously until September, 1907, when she improved, gained flesh, and diarrhea subsided. During the winter she seemed well, with the exception of some mental depression at times. In March, 1908, recurrence took place, but was not so severe as the original attack. The diarrhea was not so severe, but stomatitis more so, the tongue being especially inflamed, red and smooth. The erythema was confined to the backs of hands as in the original attack, and was never red, but was brown in color from the beginning. The skin exfoliated, leaving the backs of hands brown, smooth and atrophic in appearance. The patient was much depressed mentally and showed some evidence of melancholia. The reflexes were much exaggerated and there was some spasticity about her gait. There was no elevation of temperature, and the pulse was 90. Examination now showed that the abdomen was negative, and heart and lungs the same. The urine was diminished in quantity, but contained neither albumin nor sugar. There was some anemia.

This patient's chief diet was corn bread and grits, a sample of which could not be procured.

Case 3.—*Patient.*—Mrs. W., aged 36; American born. Family history negative.

History.—The patient was always healthy, up to March, 1906. At that time she had epigastric pain, headache and nausea. This was followed by a severe diarrhea, serous in character. In April an erythema developed on the backs of hands and forearms; it looked like sunburn, and was accompanied by vesicles. The patient was sick all summer; apparently recovered in October, 1906, but relapsed in the spring of 1907, having the same symptoms as in original attack, except in a severer form. She again apparently recovered in the winter of 1907, but again relapsed in March, 1908, at which time I saw her, with Dr. T. M. Green.

Examination.—The patient was now much emaciated and had a severe diarrhea. Her tongue was red, smooth and very painful. On the backs of hands and forearms, over and below each eye, on each side of back and front of neck, there was the evidence of a subsiding erythema. This condition was also evident on the under surface of forearms and on elbows. The skin was very brown over these areas, and in some places almost black. It was rough and much thickened. Erythema appeared only on face and neck during this recurrence. The patient had dementia, preceded by much mental depression. Her reflexes were much exaggerated, and sense of pain and temperature much retarded. There was slight ankle clonus, and pupils responded sluggishly to light and accommodation. The heart and lungs were negative. The abdomen was flat, with some enlargement of the spleen. The blood was negative. The urine contained albumin and casts.

This patient died May 19, 1908.

She had eaten corn bread daily and grits occasionally; a sample could not be obtained.

Autopsy.—The liver and kidneys appeared atrophied. The spleen was slightly larger than normal. Microscopically there was fatty degeneration of liver and kidneys, and extensive degeneration of the posterior and lateral columns of cord. The spleen and adrenals appeared normal. The brain and different levels of cord were not examined. There was some thickening of membrane of brain and cord.

ACUTE CASES.

There were seven acute cases. Three patients were colored and four white; they ranged in age between four and forty years. They were all in apparent good health before attack. There was no history of syphilis in any; two used alcohol. One of these was a chronic alcoholic; the other used alcohol only in moderate amounts. They were all American born. They all ate corn bread and grits daily. One patient had myocardial degeneration. His urine contained albumin and casts. This condition was probably due to the alcohol which he used to excess. This patient's abdomen and lungs were normal, and his reflexes not exaggerated. An examination of the urine, heart, lungs, abdomen and reflexes of the other six showed them to be negative. The pupils of all reacted to light and accommodation. An examination of their blood showed an absence of leucocytosis, malarial parasites, and bacteria of all kinds. None had the *Ankylostomum duodenale*, or its ova, in the stools. The patients were all attacked suddenly, the first symptoms being headache, slight fever, 100 to 102 F., and some nausea. There was anorexia and some gastric distress. All had severe stomatitis, six bleeding from the gums. The tongue was red, and much inflamed in each case.

Three cases in children showed the erythema well developed on the dorsum of feet. In these cases there was much inflammatory edema of feet, with bullæ and vesicles. These children also developed erythema on the backs of hands and forearms, over each eye, and on back of neck. They went barefooted. One of the other four patients had erythema on the backs of hands and forearms, elbows and back of neck. In the other three, the erythema was confined to the backs of the hands. Erythema was symmetrical in all cases. All the patients had diarrhea. In four cases, it was very severe, numbering thirty to forty stools a day; in two, about fifteen stools per day; and in one, three to eight stools. In two cases, stools always contained blood in abundance, and in one case, occasionally. The diarrhea in other cases was always serous in quality.

The erythema at first could not be differentiated from sunburn, but in a few days the skin became livid and vesicles developed. The skin gradually thickened, lost its angry look, and in two or three weeks, all erythema had disappeared, leaving a brownish red and thickened skin. In those cases which lasted only ten days, these changes could not be seen.

There was delirium in six cases, and in three it was well marked, for it was necessary to hold the patients in bed forcibly. The chronic alcoholic was not delirious, and diarrhea was not severe in his case, yet the erythema and stomatitis were particularly severe.

After a few days or a week, temperature was either normal or not above 100 F. In six cases there was gradual emaciation, loss of strength and development of stupor. The patients gradually passed into the typhoid state with delirium, carphologia and finally death from toxemia.

All these patients died. Three lived six, eight and ten days, respectively. One lived three weeks, two lived a month, and one lived six weeks. Every drug thought indicated, including arsenic and specific treatment, was tried in earlier cases, but, as this treatment gave no result, the other cases were treated symptomatically. In three cases autopsy was made, except on the spinal cord and brain, and nothing abnormal found. It was impossible to examine the nervous systems. Postmortem was refused in other cases. I am sorry that I can not report the pathologic changes in these cases, but circumstances prevented it. That we have genuine pellagra in the South I am sure, and there is no doubt in my mind that the above were genuine cases of the disease.

DISCUSSION.

DR. WILLIAM S. THAYER, Baltimore: It is true that there are a great number of cases of pellagra to-day. To pellagra, like uncinariasis, not much attention was paid until many cases were reported. In a paper published by Dr. J. F. Babcock of South Carolina, who was in charge of the State Asylum, it was reported that there were cases of pellagra in the vicinity, and that a number of cases had been found in the asylum. I saw a case one or two years ago that might have been one of this disease. It was remarkable how symmetrical the changes were, involving the hands, the forearm, with the formation of bullæ, scabs, etc. At the time I saw this case I thought of pellagra, but there were certain symptoms suggestive of myxedema present. I cured this patient by thyroid. I doubt not but that in a few years there will be as many reports of cases of pellagra as there have been of uncinariasis since the work of Stiles.

DR. JOHN L. DAWSON, Charleston, S. C.: Undoubtedly this disease, pellagra, exists among us and is not recognized. Since the paper by Dr. Babcock several cases have appeared in the city of Charleston and surrounding country. I have seen three cases, none of which would have been diagnosed had it not been for the publication of the paper by Dr. Babcock.

DR. ALFRED MEYER, New York: Is it not proper for the state and country to take cognizance of such a disease as exists in and about Charleston, and to suggest certain measures for its effacement, such as described by Dr. Bellamy? If some authority were obtained, as by the national Food and Drugs Act, some power of controlling this disease might be had. Perhaps it is more common than supposed, and will be more commonly recognized in the future, and something should be done for its suppression. I advise drawing attention to governmental rather than to individual medical efforts for the prevention of the spread of pellagra.

DR. R. H. BELLAMY, Wilmington, N. C.: When changes take place in the corn after its gathering, it has been gathered before it was mature. The meal was obtained from the corn after the ferments had produced the condition. Many believe this disease to be due to a specific organism; but if this were so the corn and meal could not be the source of infection, for these foods are always cooked two hours, and any organisms which they might contain would be killed. We have reported these cases to the State Board of Health, and are now prepared to go before the State Board of Agriculture. We have obtained the consent of the farmers to study the disease, and the farmers have been asked to be more careful in gathering the corn. I have no doubt that there are one hundred cases occurring every year that are not recognized. I myself see from twelve to fifteen cases every year. Although the disease was not seen or at least not recognized in my part of the country before 1903, there are certainly plenty of cases there now, and generally of the acute type, that is, there are more of the acute than of the chronic form of pellagra.

Local Pigmentation in Tuberculosis.—M. Delmont-Bebet, *Progrès méd.*, May 2, calls attention to a peculiarity observed by him in several hundred infants afflicted with localized tuberculosis, namely, that the sun tan is much more pronounced in the affected parts. At the maritime hospital Berck, the children go without stockings in summer and so are exposed to the sun's rays for several hours of the day which quickly tan all exposed parts, and he noticed a marked difference in the intensity of pigmentation of the exposed surfaces of the affected limbs as compared to their fellows, the tan being much more pronounced on the former. In fact, it is easy to judge which side or member is affected by this sign. It persists after operation and in the recently cured, but M. Delmont-Bebet has not been able to say how lasting it may be in those long cured. It is not seen in rachitic infants or those affected with other non-tuberculous conditions.

THE ASSOCIATION OF AGE AND INCIPIENT CATARACT WITH NORMAL AND PATHOLOGIC BLOOD PRESSURE.

A STUDY OF THESE CONDITIONS IN FOUR HUNDRED MEN ABOVE SIXTY YEARS OF AGE.*

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As one studies the conditions of the eyes and blood vessels of elderly persons, especially of men above the age of 60 years, he becomes more and more convinced that certain changes are taking place in their tissues and organs with great uniformity. This uniformity is so pronounced as to suggest an inter-relation between these changes or the dependence of each on a common cause. These changes are incident to or at least associated with age, and are probably always degenerative.

The purpose is to show by statistics how uniform these changes are and their relation to each other, *if they have any.* It is desirable to emphasize the importance of age in its relation to cataract. The relation of age to blood pressure, *if any exists,* is not close and intimate. This will be shown later by statistics.

We are concerned at this time with the changes of age as we see them in the lens, and find them in the blood vessels by palpation and instrumental examination. It is difficult to estimate the influence of age in the etiology of blood pressure, since age is often associated with arterial sclerosis and high blood pressure, but not necessarily so, and can not be studied separate and apart from certain concomitant tissue changes or attributes which are believed to be pathologic themselves, and which those who indulge in excesses of any kind bring on prematurely.

The essential elements in the relation of age to cataract, close and intimate as they possibly are, have so far eluded demonstration, and statistics do not throw much light upon them. We know that the proportion of cataracts increases with each decade or half decade from fifty years upward, as shown by these and other statistics.[1] It is higher in the class of men with pathologic than in the class with normal blood pressure, but of the essential cause we know comparatively little. The works of Metchnikoff, "The Nature of Man," "Orthobiosis" and the "Prolongation of Life," give the best scientific exposition of age with which I am familiar.

Jackson,[2] of Denver, has given the statistics of 1,545 persons over 50 years of age, patients in Wills Eye Hospital, Philadelphia; 439, or 27.8 per cent., had some degree of lens opacity. Arranged in five-year periods, the per cent. showing such opacities was as follows: 15 per cent. between 50 and 55, 16.1 per cent. between 55 and 60, 30.2 per cent. between 60 and 65, and 77 per cent. between 65 and 75. Norris[3] has given statistics of 584 inmates of the poorhouse, between 50 and 60 years of age, in whom 264, or 45 per cent., had traces of cataract.

These statistics were compiled before the importance of blood pressure records were recognized, hence we lose whatever information such records might have furnished.

In the accompanying statistics age and incipient cataract have been considered at length and the result will be given further on, but the chief task I have assigned myself has been to show by statistics what influence, *if any,* arterial sclerosis and high blood pressure, or the causes which lead to them, have in the etiology of cataract. Theoretically there are many reasons why this influence should be great, but practically its importance seems to have been overestimated. For example, with normal blood pressure I have found in 59 men, between 60 and 65 years of age, 37.3 per cent. of cataract; in 79 men, between 65 and 70, 41.8 per cent.; in 35 men, between 70 and 75, 54.3 per cent.; in 20 men, between 75 and 80, 70 per cent.; in 4 men, between 80 and 85, 75 per cent. A steady but not pronounced increase is observed up to the period between 85 and 95, in which the number of cases of cataract is too small to be of any statistical value.

With pathologic pressure I have found in 57 men, between 60 and 65 years of age, 42.1 per cent. of cataract; in 61 men, between 65 and 70, 54.1 per cent.; in 44 men, between 70 and 75 years, 55.8 per cent.; in 22 men, between 75 and 80, 68.2 per cent.; in 12 men, between 80 and 85, 83.33 per cent., and one man, 95 years old, one cataract, or 100 per cent., thus showing a steady rise in the per cent. of cataracts with age, which is greater in those with pathologic than in those with normal blood pressure.

These statistics further show that 79.5 per cent. of these 400 men had blood pressure between 130 and 180 mm. Hg, and the largest number of cataracts were found between these limits of pressure. For example, 79 men, between 65 and 70 years of age, had 33 cataracts, i. e., 41.8 per cent., with pressure under 160; 61 men, between the same ages, had 33 cataracts, or 54.1 per cent., with pressure above 160 mm. Hg. In other words, 61 men with pathologic pressure had the same number of cataracts that were found in 79 men with normal pressure, and the statistics also show that an increase in pressure of 41.4 mm. Hg in the pathologic over the normal class is accompanied by an increase of 17 cataracts, or 18.3 per cent. It is evident, therefore, that pathologic pressure, or the conditions which lead to it, have considerable influence in the etiology of cataract, and I can not agree with the statements of Fraenkel and Garipuy that it does not.

In my service in the eye department of the hospital at the National Military Home, near this city, abundant opportunities are offered for observing the association of these conditions, and it has been my privilege to conduct the examinations which form the basis of this paper in that great field. It is believed that their value is greatly enhanced by the fact that they have been compiled by a single observer and his assistant, from men of the same class, of the same general age, living under uniform conditions as to diet, hours of sleep, amount of exercise, and surrounded by the same temptations as to drinking and other vices, but at the same time subject to parental military control.

More than 6,000 men, 60 years of age and over, with an average age of 67.72 years, have been available for the purpose.[4] Only such have been accepted, however, as have been able to walk to the clinic for eye and ear treatment and as I have been able to examine in the limited time at my disposal. No selection of cases has been made, but no one has been accepted for the examination unless a satisfactory view of the lens, blood vessels and details of the fundus could be had in one or both eyes. (This has excluded all mature and advanced immature cataracts of both eyes.)

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Oliver: A study of 3,436 cataracts operated by the staff of Wills Eye Hospital, Philadelphia, Trans. Am. Ophthal. Soc., xi, Part I.

[2] Norris and Oliver's System of Diseases of the Eye, iv, 324.

[3] Id., 289.

[4] Annual Report of Board of Managers National Military Homes, 1907.

To this end one or two instillations of a 1 per cent. solution of homatropin has been used in every case, and the examinations have taken a wider range than for cataract alone and have included all intraocular diseases and conditions. While it is well known that cataract does not necessarily start in both eyes at the same time, as a rule it does, and when present can be detected in the lower inner one-third or one-half of the periphery in more than 95 per cent. of all cortical cases, as spokes or striæ or as masses of opacity. Magnus[5] places the per cent. at 82.69, but in my experience it has been much higher, as I have only seen cortical opacity begin in the upper one-half of the lens in three of 600 cases examined, *with a dilated pupil.* The small percentage of all kinds of cataracts which mature is well known.

The statement of Walther,[6] that "Every one becomes cataractous who does not die prematurely," seems to have some statistical support. The plausibility of the statement is strengthened if we believe that the changes in the lens which lead to cataract are degenerative, and that the changes of age are also degenerative, or the statement of Roemer that cataract is the result of direct poisoning of the cells of the lens, and if we accept the teaching of Metchnikoff that "all deaths are accidental and premature under present conditions, because of auto-poisoning by the products of intestinal decomposition," we reach a point where the inter-relation of all these conditions seems evident and their degenerative character apparent.

It seems to me that the essential, all important elements entering into the consideration of these subjects is wrapped up in their probably degenerative character, and their association together at a fairly definite period of life. When the effects of all of these influences are understood we shall know more of the etiology and pathology of age, cataract and blood pressure than we do at present.

The statement of W. J. Collins,[7] that "the cataractous process is not an exaggerated senile change, but due to disturbed nutrition of quite another nature, in so far as chemical and not morphologic changes are concerned," appeals to me as a fair statement at this time of the relation of age to cataract. The changes may be chemical or they may be morphological. They certainly amount to nutritive disturbances, and are closely related to the changes incident to age, if they are not one and the same thing. Roemer[8] has gone into the study of the subject from a different viewpoint, that of a direct poison acting on the cells of the lens, and attempts to show that cataract is probably due to the action of some cytotoxin on the protoplasm of the lens.

In relation to blood pressure itself, 200 men having so-called normal pressure, that is, under 160 mm. Hg, of the same general age, have been compared as to frequency of cataract with the same number of men having so-called pathologic pressure, that is, above 160 mm. Hg.

The examinations were made between 2 and 5 o'clock in the afternoon, with the patient in the sitting posture, the arm supported and on a level with the heart, perfect quiet of body and mind being enjoined. The Janeway sphygmomanometer was used, with 12 cm. cuff, above the elbow. Two or three tests were made in every case, and the reappearance of the radial pulse was the basis from which systolic pressure was read. As frequent reference has been made and will be made to pathologic blood pressure, it should be understood that its connection with arterial sclerosis is assumed.

Many of the statistics have been compiled from the same material which was used in a previous paper.[9] Since that time 100 more examinations have been made along the same lines, so that for the statistics of the present paper 600 examinations and 555 blood pressure records are available. The paper contains the largest number of blood pressure statistics in association with age and incipient cataract with which I am familiar. Fundus blood vessel changes of arterial sclerosis have been extensively studied abroad by Gunn and many others; at home by Allaman, de Schweinitz and Reber of Philadelphia, Friedenwald, of Baltimore, Marple of New York, and many others, but the conditions of the lens, in association with age and blood pressure, I have found only briefly referred to in journals and at considerable length in an article by Fraenkel and Garipuy.[10]

As my own studies have been along these same lines, and are so at variance with those they have presented in regard to blood pressure, it may be profitable to briefly state the conditions under which they examined 108 persons, with mature cataract, before and after operation, and compare the conclusions they reached concerning the influence of arterial tension in its etiology with those I have found in incipient cataract, but under a different standard of blood pressure, at a higher initial age and in men only. They used five standards of arterial tension as follows: (1) Very feeble tension below 101 mm., (2) feeble tension from 101 to 120 mm., (3) normal tension from 121 to 140 mm., (4) high tensions from 141 to 160 mm., (5) very high tensions above 160 mm. I have used only two standards for arterial tension, because I have not found such a refinement of tension necessary or even desirable. The whole subject is as elastic as the pressures themselves, and fine distinctions as to the exact amount of tension are not possible. We know, in a general way, that age, sex, occupation, general conditions, etc., influence blood pressure so greatly that we can speak only of certain upper and lower limits for the normal. There can be no fixed upper limit for pathologic pressure, for obvious reasons, and the lower limit must be arbitrarily fixed. However, certain standards are sufficiently constant and desirable to recommend them for general use.

I have not met with a systolic pressure below 110 mm., and the average of these 400 records is 139.6 normal and 181 mm. Hg pathologic. Fraenkel and Garipuy report that five of their elderly patients had pressure of 100 mm. and below, measured by a Laulaine's apparatus, which is similar to the Riva-Rocci. They do not so state, but a narrow cuff was probably used, which would give a higher reading than the actual pressure, which it is generally agreed can only be obtained with an armlet of 9 cm. or wider.

These authors state, "In plain figures the normal pressure never exceeds 130 mm., yet even in the normal a higher pressure may be found for a time." In my previous paper[9] I have reported the blood pressure records of 455 men above 60 years, with 130 mm. as the upper normal limit, and only had 17 cases under that standard, and only 125 cases with the upper normal limit fixed at 145 mm., and for the present paper it has been necessary to compile 555 records in order to find 200 men with blood pressure under 160 mm. Hg. It seems to me that a standard of 130 is too low for a class of elderly hospital and almshouse patients, many of whom must have been hard laborers at some period of life and sufferers from the deprivations and vices to which this class of persons are exposed, and that 160 mm. Hg is not too high an upper normal limit for them.

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[5] Morris and Oliver's System of Diseases of the Eye, iv, 289.
[6] Walther: Id., ii, 323.
[7] Ophthalmic Review, November, 1889.
[8] Ophthalmic Year-Book, 1906
[9] Ophthalmology, January, 1908.
[10] Studies Concerning the Arterial Tension in Cataractous Individuals, Arch. d'ophth., October, 1906.

In reference to such a standard or upper normal limit for elderly persons, Janeway[11] says: "After 50 the average normal pressure varies from 130 to 145 mm. Hg (12 cm. cuff). Gumbrecht places it at 200 in old people, and Hansen at 170 mm. Hg (5 cm. cuff)." Other things being equal, blood pressure tends to rise higher in elderly persons than in those of middle life, just as it is higher in middle life than in childhood and youth. The reasons for this increase are self-evident if we accept the latest theories as to the pathology of arteriosclerosis and high blood pressure. They need not be considered in this connection. Fraenkel and Garipuy say further: "We also find that age does not influence arterial tension; among the 80-year-old cataractous we have found two very high tensions (160 and 161 mm.), five normal ones and one very feeble one. The same figures are found in the different parts of life." I have not found so low tensions. In 16 men between 80 and 85 years I have found 13 incipient cataracts, 3 with normal pressures 130, 150 and 155 mm., and 10 with pathologic pressure from 167.5 to 235 mm.

Again, they state that "arterial hypertension is only exceptionally found in cases of senile cataract, based on their 108 cases. In 99 uncomplicated cases we have found 80 unelevated tensions, that is, 140 mm., 10 high tensions, not more than 150 mm., and only 9 with a very high tension." They state that these figures for arterial tensions are much lower than those found by them in glaucoma, and that Méo, in 13 old men, taken at random from the hospital with arteriosclerosis, found 177 mm. to be the lowest and 230 mm. to be the highest tension.

This does not seem to be a fair statement of the facts, as the pressures are used to affirm the contention that cataractous persons do not usually have arteriosclerosis and high tension. Without stating what the condition of the lenses was in these 13 men, it is certain that more than 50 per cent. of them had incipient cataracts, and

TABLE 1.—Showing Age and Incipient Cataract, in 200 Men with Blood Pressure Under 160 Mm.

		Blood Pressure.			Cataracts.			
Age.	No. of Men.	Average.	Minimum.	Maximum.	Cortical. No.	Nuclear. No.	Cortico Nuclear. No.	Total. No.
60	7	142.8	130	150	..	..	..	..
61	9	142.2	115	150	2	2	..	4
62	14	139.6	115	155	3	..	1	4
63	13	139.2	110	150	7	..	1	8
64	16	139.4	125	155	5	..	1	6
	59				17 28.8%	2 3.4%	3 5.1%	22 37.3%
65	22	138.2	110	155	8	..	3	11
66	20	137.5	115	150	4	1	3	8
67	16	144.4	110	155	4	..	..	4
68	8	140.6	130	150	5	..	..	5
69	13	138.8	125	155	3	2	..	5
	79				24 30.4%	3 3.8%	6 7.6%	33 41.8%
70	12	137.1	115	155	7	..	..	7
71	4	136.2	130	140	..	1	..	1
72	6	142.5	130	150	1	1	..	2
73	8	137.5	120	150	2	1	2	5
74	5	135.0	120	150	3	..	1	4
	35				13 37.1%	3 8.65%	3 8.65%	19 54.3%
75	3	135.0	130	140	1	1	..	2
76	5	145.0	135	155	2	..	..	2
77	5	133.0	120	145	3	..	..	3
78	4	143.8	135	155	1	1	2	4
79	3	138.3	130	145	3	..	..	3
	20				10 50.0%	2 10.0%	2 10.0%	14 70.0%
80	2	140.0	130	150	1	..	1	2
81	..	....	...	...	..	..	..	..
82	..	....	...	...	..	..	..	..
83	2	142.5	135	150	1	..	..	1
84	..	....	...	...	..	..	..	..
	4				2 50.0%	..	1 25.0%	3 75.0%
85	2	147.5	145	150	1	..	1	2
87	..	....	...	...	..	..	..	..
94	1	150.0	...	...	..	..	..	..
95	..	....	...	...	..	..	..	..
	3				1 33⅓%	..	1 33⅓%	2 66⅔%
Averages..		139.6	125.8	150.4				
Total					67	10	16	93 46.5%

Average age 68.51 years for 200 men.

TABLE 2.—Showing Age and Incipient Cataract in 200 Men with Blood Pressure of 160 Mm. and Over.

		Blood Pressure.			Cataracts.			
Age.	No. of Men.	Average.	Minimum.	Maximum.	Cortical. No.	Nuclear. No.	Cortico Nuclear. No.	Total. No.
60	8	183.8	165	220	1	..	..	1
61	7	174.3	160	190	3	..	..	3
62	17	172.9	160	210	6	1	2	9
63	13	182.3	160	250	6	..	..	6
64	12	170.8	160	200	2	2	1	5
	57				18 31.6%	3 5.25%	3 5.25%	24 42.1%
65	16	175.3	160	240	8	..	2	10
66	7	180.7	160	210	1	1	1	3
67	17	190.9	160	300	6	..	2	8
68	13	178.8	160	200	6	1	..	7
69	8	178.8	160	250	1	4	..	5
	61				22 36.1%	6 9.8%	5 8.2%	33 54.1%
70	18	180.0	160	220	6	..	2	8
71	6	190.0	160	255	1	1	1	3
72	10	184.5	160	230	4	1	..	5
73	5	188.0	160	215	2	2	..	4
74	5	210.0	170	260	3	1	..	4
	44				16 37.2%	5 11.6%	3 7.0%	24 55.8%
75	8	191.3	160	280	3	..	..	3
76	3	183.3	160	200	3	..	..	3
77	6	173.3	160	210	2	2	..	4
78	3	173.3	160	180	..	2	1	3
79	2	175.0	170	180	2	..	..	2
	22				10 45.4%	4 18.3%	1 4.5%	15 68.2%
80	4	185.0	160	220	1	1	1	3
81	1	180.0	...	...	1	..	..	1
82	2	207.5	180	235	1	..	1	2
83	4	167.5	160	175	1	..	3	4
84	1	165.0	...	...	..	..	..	..
	12				4 33⅓	1 8⅓%	5 41.7%	10 83⅓%
85	2	172.5	170	175	..	1	1	2
87	1	170.0	...	...	..	..	1	1
94	..	....	...	...	..	...	...	..
95	1	200.0	...	...	..	..	1	1
	4				..	1 25.0%	3 75.0%	4 100%
Averages..		181.0	162.1	215.0				
Total					70	20	20	110 55.0%

Average age 68.55 years for 200 men.

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[11] Clinical Study of Blood Pressure, p. 109.

that if they had been kept under observation, and had lived long enough, probably 25 per cent. would have developed mature cataracts.

They continue: "When referring to the properly so-called senile cataract which is not due to any lesion of the deeper membranes of the eye, nor to a general disease, among 99 individuals examined 5 had very feeble tension (100 mm. and below), 30 had feeble tension (101 to 120 mm.), 45 had normal tension (121 to 140 mm.), 10 had high tension (141 to 160 mm.), and 9 had very high tension (above 160 mm.)" I reported the blood pressure in 50 cases of mature cataract, which ranged from 130 mm. low to 210 mm. high and averaged 161.3 mm., their ages between 60 and 85 averaged 68.5 years. The urine was not examined for albumin and casts in the first 500 cases, but has been in the last 100. The examinations add nothing to our knowledge along these lines.

Finally, it is claimed by these authors, "In the foregoing pages we have reported on the results of our researches concerning the permanent arterial tension in 108 cataractous individuals examined by us; the object was to find whether the arterial tension in the cataractous was sufficiently high to consider these patients as arteriosclerotics." Later they say, "A senile cataract is *not usually accompanied by arteriosclerosis.*" I am able, with a much higher standard, to confirm their statements that age does not materially influence arterial tension except in the general way just referred to, but I affirm, basing my opinion on these statistics, that there is a close and intimate association between arteriosclerosis, pathologic pressure and cataract.

While the proportion of cases of cataract with pathologic pressure is not as great as might be expected, in considering arterial sclerosis and high blood pressure as causes of cataract, we should not forget that the deleterious influences which these may have on the nutrition of the lens need not depend on high pressure alone, since in a certain proportion of cases high pressure is an incident in the course of and not a cause of arterial sclerosis. It is a common observation that extensive disease of the palpable vessels can exist without high pressure, and it is conceivable that the obstruction to the lumen of such vessels could seriously interfere with the nutrition of the lens in cases where arterial tension is not above the normal.

In comparing the statistics presented in Tables 1 to 4 with those given by these observers, it must be borne in mind that we have used a different instrument, a different standard for recording blood pressure, have studied different stages of cataract and different classes of persons. If the percentage of incipient cataract I have found with arteriosclerosis and hypertension is higher than that found by these observers, some of the discrepancy can be explained by assuming that old soldiers furnish a more favorable soil for the development of sclerotic or connective tissue processes, than the class examined by them, but a large part of the discrepancy can not be so explained, but must be charged to the process of reasoning which enables different observers to reach different conclusions from the same observed state of facts. These blood pressure statistics are in harmony with the observations of the best authorities along this line of study.

It may be of interest to state, in closing, and is germane to the subject, that I have in the past four months furnished about 250 cataractous lenses, from men above 60 years of age, to Prof. W. H. Howell of the Johns Hopkins physiologic laboratory, Baltimore, from the collection of such lenses in the National Military Home Hospital. Mr. Burge, working under the direction of Professor Howell, has found that "there is a marked decrease in the potassium and a corresponding increase in the calcium salts of the ash of such lenses." The work is not far enough advanced to reach any definite conclusion. I have Professor Howell's permission, however, to report this observation in advance of publication, for whatever it may prove to be worth. A full report will appear later in his laboratory bulletin. Mr. Burge's observation of the preponderance of the lime salts in such lenses suggests that the increase in these salts may be general throughout the body and may have some influence also in bringing about some of the processes which lead to aging and arteriosclerosis. The idea, I believe, has long been entertained that calcareous degeneration is one of the ultimate terminations of connective tissue proliferation in the arteries and perhaps in other tissues and organs.

TABLE 3.—SHOWING BLOOD PRESSURE WITH AGE AND CATARACT.

		Age.			Cataracts.			
Blood Pressure.	No. of Men.	Average.	Minimum.	Maximum.	Cortical. No.	Nuclear. No.	Cort.-Nucl. No.	Total. No.
110	4	65.5	63	67	1	..	..	1
115	4	64.8	61	70	1	..	..	1
120	6	71.0	65	77	4	..	..	4
125	5	65.6	62	69	2	..	..	2
130	36	68.4	60	80	11	3	2	16
135	21	69.3	61	83	4	2	3	9
140	45	66.9	60	79	17	1	5	23
145	18	70.3	63	85	5	2	3	10
150	51	67.3	60	94	21	2	2	25
155	10	68.2	62	78	1	..	1	2
	200				67	10	16	93
160	43	68.9	61	83	16	7	3	26
165	10	68.8	60	84	4	1	1	6
170	38	68.1	60	87	10	6	6	22
175	13	68.8	60	85	7	1	2	10
180	32	69.3	61	82	9	2	2	13
185	4	67.2	61	73	..	1	..	1
190	21	70.5	60	76	7	1	2	10
195	1	71.0	..	..	..	..	..	..
200	13	71.8	64	95	6	..	3	9
205	3	70.0	63	75	1	..	..	1
210	5	68.6	62	77	2	..	1	3
215	2	71.5	70	73	2	..	..	2
220	5	70.2	60	80	1	..	..	1
225	..	...	..	..	..	..	..	..
230	2	69.5	67	72	1	..	..	1
235	1	82.0	..	..	1	..	..	1
240	1	65.0	..	..	..	..	..	..
245	..	...	..	..	..	..	..	..
250	2	66.0	63	69	1	1	..	2
255	1	71.0	..	..	..	..	..	..
260	1	74.0	..	..	..	..	..	..
280	1	75.0	..	..	1	..	..	1
300	1	67.0	..	..	1	..	..	1
	200				70	20	20	110

TABLE 4.—SHOWING CATARACT WITH AGE AND BLOOD PRESSURE.

		Age.			Blood-Pressure		
Cataract. Kind.	No.	Average.	Min.	Max.	Average.	Min.	Max.
Cortical	67	68.9	61	85	138.5	110	155
Nuclear	10	69.5	61	78	139.0	130	150
Cort.-Nucl.	16	70.2	62	85	140.9	130	155
	93						
Cortical	70	68.9	60	83	183.8	160	300
Nuclear	20	71.9	62	85	173.3	160	250
Cort.-Nucl.	20	74.3	62	95	178.3	160	210
	110						

My thanks are due to Col. W. E. Elwell of New York, inspector-general and chief surgeon of the National Military Homes for permission to use the material for the paper. I am under renewed obligations to Maj. F. W. Roush, surgeon, for his cooperation in the work, which is respectfully acknowledged. My assistant, Dr. A. W. Bartell, of the medical staff, has given me valuable aid and assistance in the last 100 cases examined. Dr. J. W. Millette of this city, my assistant in St. Elizabeth's Hospital, has compiled practically all of these statistical tables, and it is a pleasure to acknowledge that whatever of value they may have, in throwing light on the subjects of the paper, is due to the thorough manner in which he has presented the statistics by the above tables.

DISCUSSION.

Dr. W. B. Marple, New York: On studying Dr. Greene's figures and some of my own, I could not escape the conviction that if there was any connection between senile lens changes and pathologic blood pressure it was not very apparent. It is very probable that if there was an intimate connection of this character we should have a harmony in our figures in the different decades or half-decades. Dr. Greene's figures on patients between 60 and 70 years show a larger percentage of cataracts among the patients with pathologic than among those with normal blood pressure, yet evidence of such connection is surely not very apparent among the patients between 70 and 80. In fact, among about the same number of patients between 75 and 80, those with normal blood pressure show a slightly higher percentage of cataracts than those with high pressures. My assistant, Dr. Krug, has recently examined one hundred cases among the patients between 60 and 80 years of age in the almshouse on Blackwell's Island, New York, having all the conditions as nearly as possible like those described by Dr. Greene. The patients were about equally divided between the two sexes. In each patient two observations of blood pressure on consecutive days were made, and the average of the two was taken. I can vouch for the carefulness with which the work was done. A careful study of these tables does not reveal any conspicuous difference. In the percentage of cataracts in the two cases and in some of the decades it appeared as though there was a higher percentage of cataracts among the patients with normal than among those with high pressure, as was the case also in some of Dr. Greene's tables. In all the decades the percentage of cataracts was 64 for the normal and 70 for the high pressure, but the number, 101 in all, was too small, as I consider Dr. Greene's numbers also too small, to warrant the formulation of any very definite ratio. In the higher decades the number of patients with high pressure was larger than of those with normal pressure. Dr. Greene may be on the right track, but it will need larger statistics to show to what extent high blood pressure becomes a factor in the causation of cataract.

Fraenkel and Garipuy bring out one point of real value in the possible connection between arterial hypertension and spontaneous intraocular hemorrhages which follow a cataract extraction. In forty-two cases with normal tension these observers had one hemorrhage (of the anterior segment), while in ten cases with very high tensions in which operation was performed they had three intraocular hemorrhages, one an expulsive one. In the case of expulsive hemorrhage the tension was found to be much higher than in the cases of hemorrhages in the anterior segment. Fraenkel and Garipuy say that if the examination of the cataract patient shows very high tension therapeutic measures should be employed before operating to reduce this tension and to maintain it at as nearly a normal degree as possible until healing is complete. In this way we may try to avoid the expulsive hemorrhage, which is the worst complication of this operation, and also the hemorrhages of the anterior segment which sometimes reduce a favorable result which we thought assured.

Dr. Edward Jackson, Denver: I think that so far as the present reported investigations point to a conclusion they point distinctly to an absence of any direct connection between increased blood pressure and cataract. The first table shows a very distinct connection between age and the occurrence of incipient cataract; in every five-year period a distinct increase. We must remember that there is a distinct increase in blood pressure with age. That is shown by all statistics. Taking that fact and Table 3, we find that with increase from 110 to 300 mm. there is no regular increase in the number of incipient cataracts. If we make allowance for the fact that the high blood pressures occur with the greater ages and in persons with senile changes, in whom incipient cataract is also more common, I think that the table indicates that there is no other connection.

Dr. R. D. Gibson, Youngstown, Ohio: I visited the Soldiers' Home in Dayton a month ago and was impressed with the army of old men Dr. Greene has there to deal with—something like seven thousand. It is very fortunate that the opportunities are being put to use. Eighteen years ago Dr. Knapp, of New York, made the remark that we find senile cataract in one person in every three who attains the age of 70.

Dr. Leartus Connor, Detroit: It is unfortunate that conditions under which the observations were made did not permit of inquiry into the cause of this blood pressure, also that other conditions associated with the formation of cataract have not been eliminated. The effect which blood pressure has on disturbances of metabolism in these patients is still undemonstrated. All observations come from those with whom the battle of life went badly; those in the poorhouse, and the old soldiers, whose nervous and nutritive systems had been badly disturbed. Before we can come to any definite conclusions we must know what changes the blood pressure makes in metabolism in different tissues of the body.

Dr. G. F. Keiper, Lafayette, Ind.: If blood pressure be responsible for incipient cataract then we ought to see more cataracts in younger subjects than we do because angiosclerosis is not confined to old people by any means, but occurs at any age, as any one may demonstrate for himself by means of the sphygmomanometer. There must be something else to account for cataract; this may be one of the contributory causes. A number of these lenses have been examined and there was found a marked decrease in the potassium salts and a corresponding increase in the calcium salts, which would seem to indicate other causes than blood pressure.

Dr. Oscar Wilkinson, Washington: In my opinion there is no branch of ophthalmology so neglected and no class of cases so ignored by the oculist as those with incipient cataract. It is the rule to say, "You have an incipient cataract; it may never bother you, but, if it does, come back and we will operate." That seems to be ignoring a pathologic condition that in any other part of the eye we would attack with the energy it deserves. I think that Dr. Risley sounded the keynote in regard to this condition when he said that it was not due to old age and the natural consequences of old age, but was a process that should be studied and treated, and I think that Dr. Greene is doing a great good. I have for years been working along this line myself and have come to the conclusion that when we pay attention to the processes of elimination and the proper correction of errors of refraction in these cases we can at least postpone the condition.

We all know that in a great many cases lenticular opacities increase rapidly. Patients will come with vision of 6/6, with partial opacity, and in three months will have lost as much as one-third of the vision. It would be interesting to know whether these gentlemen who have had the opportunity of studying the blood pressure have investigated it in relation to the rapidly forming lenticular opacity.

Dr. J. L. Thompson, Indianapolis: How are we to explain or account for any opacity at the lower inner margin of the lens and in no other part of the body which remains stationary for twenty or thirty years and never results in complete opacity? I have numerous pencil sketches of this peculiar form of lens opacity in said region. I never tell a patient about it except when other parts of the lens are affected.

Dr. D. W. Greene, Dayton, Ohio: Up to the present time only the surgeon and the internist have availed themselves to any extent of the valuable lessons to be drawn from sphygmomanometric records. The fundus blood vessel changes of arteriosclerosis have been extensively studied by oculists, but so far comparatively little attention has been given to the cornea, uvea, lens, vitreous and intraocular tension in connection with arterial sclerosis and blood pressure. The plea of the paper has been for a wider and fuller study along these lines, limited in this paper to the condition of the lens under so-called normal and pathologic blood pressure.

I did not refer to the observation of Fraenkel and Garipuy of which Dr. Marple speaks, but I am glad that he has called attention to so important a matter as intraocular hemorrhage in connection with blood pressure. Permit me to digress long enough to call your attention to a matter of equal importance, the association of high blood pressure (as I have repeatedly observed) with delayed healing of cataract wounds caused in my judgment, by the plus tension so often associated with it.

I wish to call Dr. Marple's and Dr. Jackson's attention to a few figures on page 165 showing 79.5 per cent. of these four hundred men with blood pressure between 130 and 180 mm. Hg and the largest number of cataracts were found between these limits of pressure. For example, seventy-nine men between 65 and 70 years of age had thirty-three cataracts, 41.8 per cent. with pressure under 160; sixty-one men between the same ages had thirty-three cataracts, or 54.1 per cent., with pressure above 160 mm. Hg. In other words sixty-one men with pathologic pressure had the same number of cataracts that were found in seventy-nine men with normal pressure, which shows an increase of 29.4 per cent. in the pathologic over the normal class. These statistics also show that two hundred men with an average blood pressure of 139.7 mm. Hg, had ninety-three cataracts, while two hundred other men with an average blood pressure of 181 mm. Hg had one hundred and ten cataracts, showing that an increase in blood pressure of 41.4 mm. Hg was accompanied by a corresponding increase of seventeen cataracts. Seventeen being 18.5 per cent. of ninety-three, the increase of cataract in those having pathologic over those having normal blood pressure is therefore 18.3 per cent., as already stated. This percentage is too high to be a mere coincidence, and although I do not pretend to say what its total significance is, I think that it shows that pathologic blood pressure or the condition back of it has considerable influence in the causation of cataract. It is hardly fair to interpret the statistics by decades and half decades because of the few men in each. The value of the statistics is in the correct handling of the figures.

It is not intended to imply anywhere in this paper, that arterial sclerosis or high blood pressure are primary conditions in the causation of cataract. It is too soon to make any such statement. My only purpose has been to present statistics showing their association. The causes and pathologic significance of arteriosclerosis and high blood pressure and even lens opacity itself must still be regarded as *sub judice*.

Clinical Notes

PERFORATING GASTRIC ULCER

WITH REMARKS ON DIAGNOSIS AND TREATMENT.

B. VAN SWERINGEN, M.D.
FORT WAYNE, IND.

The following case will furnish the text for some observations which seem appropriate in the light of this experience:

History.—E. L. C., 62 years old, had had attacks of 'indigestion" for many years. He sought no medical advice for these attacks of stomach trouble except on one occasion in the fall of last year, when he was put on a liquid diet for about ten days; then, the symptoms subsiding, all restrictions were removed and he felt comfortable until about May 16, 1908. He was visiting in Chicago at this time, and attributed the return of his gastric distress to indulgence in Chinese restaurant meals. He described the trouble as a heartburn, accompanied by belching and some distress in the epigastrium during the height of digestion. He never vomited in any of the attacks nor did he ever have any pain shortly after eating. There was no history of melena. He had no tender spots in the epigastrium or in the back. He did not consult anyone about his last attack until he was taken suddenly with a very severe pain in the right hypochondrium on the night of May 19, 1908. This pain was paroxysmal and radiated to the right shoulder. He vomited several times during the attack. The temperature and pulse were normal. He was not collapsed at the time of my visit, which was about half an hour after the onset. From the history of the indigestion and the character, location and distribution of the pain, a diagnosis of probable gallstone colic was made and one-half grain of morphia given hypodermically, after which the patient became tolerably comfortable and rested so until morning, when examination showed some tenderness in the right hypochondriac region and over the appendix. Rigidity of the right rectus and increased tenderness over the appendix were added as the day wore on, until the question arose whether it was not a case of gangrenous appendicitis from the start. The liver dulness was not obliterated, but fever and increase in the pulse rate appeared, and the patient was taken to the Lutheran Hospital for exploratory laparotomy just twenty-four hours after the pain began.

Operation.—The incision was made in the right rectus opposite the umbilicus, so that it might conveniently be extended up or down as seemed necessary. The appendix was found firmly adherent and some free pus seen in the abdominal cavity. This led to the opinion that the appendix was probably entirely at fault, and it was removed, but not until the appendix was entirely delivered was it seen that no perforation existed in it and that it was not accountable for the free pus. The reason that it could not be examined before removal was that on account of the adhesions the base had first to be ligated and severed from the cecum, and then the adhesions and mesentery tied and separated down to the tip. When the tip came into view there was to be found no evidence of acute trouble, so the incision was enlarged upward and the gall bladder palpated without result. Then the pylorus was examined and some plastic lymph found on its anterior surface, while the intestine in the neighborhood showed evidences of inflammation. While the examination was in progress, some greenish grumous fluid was seen to escape from a small opening, about the size of a lead pencil, located in an indurated area two inches in diameter on the anterior surface near the gastrohepatic omentum. Several Lembert stitches were taken with great difficulty on account of the inaccessibility of the ulcer, and the opening was closed. The pylorus seemed to have been narrowed considerably by the stitches, and the question of gastroenterostomy came up, but was decided negatively on account of the length of time the patient had already been on the table and the necessity for operating in the presence of an established peritonitis. Then, again, it was evident that the pylorus still had an opening, and it was thought best to wait for recovery and do a gastroenterostomy later if required.

Subsequent Course.—This was uneventful. The patient did not vomit again. Nothing was given by the mouth for five days, but he had three pints of water by the rectum each twenty-four hours, which was retained. Then water was cautiously given by the mouth, gradually increasing in quantity until the rectal injections were dispensed with and a liquid diet slowly reached. The patient had no return of his indigestion or any stomach distress whatever. Nine weeks after the operation he is on a rather liberal diet, including fish, white meats, cereals, eggs and milk, without any symptoms of gastric retention or pyloric obstruction.

The points in the case to which I desire to draw particular attention are the impossibility of differentiating the primary attack of pain from that of biliary colic, and the close resemblance of the symptoms presented twelve hours later to those of appendicitis. If this resemblance had not been present there might have been time for a gastroenterostomy had it been thought advisable to make it, but the finding of an adherent appendix led to its removal, which proved difficult and time-consuming on account of the old adhesions.

At the present time it seems that the course pursued in regard to the gastroenterostomy was wisest, for the patient has no pyloric obstruction, and an additional operation would have decreased his chances materially and unnecessarily.

During the colic the history of stomach trouble, taken in connection with the sudden onset of paroxysmal pain radiating to the scapula and shoulder and the persistence of liver dulness, made a perfect picture of biliary colic.

It seems to me impossible in a similar case to be sure of one's diagnosis before operation, but safety appears to lie in the recognition of the necessity for immediate laparotomy, which fortunately can be early determined, the exact anatomic diagnosis being completed with the abdomen opened.

208 Washington Boulevard, West.

A CASE OF TYPHOID SPINE.*

CHARLES OGILVY, M.D.
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NEW YORK CITY.

History.—G. L., aged 56, had on July 14, 1907, what he terms a chill. The following week he did not feel very well, but continued his work, that of a bank teller. On July 24 he was taken to the nearest hospital suffering from a well-defined attack of typhoid fever. Cold sponge baths were given whenever the temperature rose above 102. These were continued for three weeks; then pneumonia developed. The lower lobes of both lungs were involved. Resolution followed in due course and the patient returned to his home three weeks later, having remained in the hospital for six weeks. His general weakness and disability were not more marked at this time than would have been expected. Three weeks after returning home he was able to get about fairly well, but always complained of stiffness in his back. Walking up or down stairs caused pain in the back, which was somewhat general, but more especially referable to the lower left dorsal region. An unsuccessful attempt was made to resume business. The pain gradually grew more severe. Massage and active and passive motion were advised, from which soon resulted an accentuation of the symptoms. Early in November jaundice developed. This quickly responded to treatment and within a week had entirely disappeared. The patient has had no second attack. In December steam baths were given, the after-effect of which was to depress and weaken the patient. The acute exacerbations of pain were now so severe at times that the administration of morphin was necessary. The actual cautery was used with slight temporary relief. Adhesive-plaster strapping was followed with better results, though administration of morphin had still to be resorted to. On Jan. 9, 1908, the case was referred to me by Dr. A. H. Moore of New Rochelle. At this time the symptoms of pain and distress were much accentuated. The slightest movement in bed caused a sharp shooting pain in the back, radiating toward the abdomen. Even the raising of an arm from the bed would cause a painful spasm. The patient also complained of marked tenderness over the costosternal junction of the sixth rib on the right side. Though a well-nourished man and of a naturally phlegmatic temperament, he was extremely nervous, and at times inclined to be hysterical. This was most noticeable when recounting the history of his illness, and especially when describing the pain. He wore a haggard, anxious look, which was not relieved between the painful spasms, but was exaggerated at these times.

Examination.—This showed a small but distinctly marked kyphosis of the seventh dorsal spine. To the left of this, of the size of the palm of the hand, was a hypersensitive area which was exceedingly tender on pressure. On either side of the spinous processes, in the dorsal region, there was marked hypersensitiveness and some swelling; a right dorsal curvature was also present. An enlargement of the sixth rib over the area complained of in front was distinctly palpable. This was quite painful on pressure. Breathing was painful. Knee-jerks were exaggerated. Temperature was but half a degree above normal and pulse was 110.

Treatment.—It was not advisable to apply a plaster-of-Paris jacket because of the severity of the pain the application of the jacket would involve. A plaster-of-Paris bed was made. This included the thighs and extended upward, including the neck and shoulders. It was retained in place by a plaster-of-Paris bandage below and a muslin bandage above over the thorax. This bed was applied on January 11, from which time the patient began to improve. No morphin was afterward administered, and though the patient was very nervous for the following week, there were none of the severe attacks of pain previously noted. On January 28 the patient was allowed to sit up for half an hour. No ill effects followed and he was up every day after this date. After getting up he complained of stiffness in the knees. This was at first quite a distressing symptom, as was also stiffness in the shoulder joints. The latter disappeared; the former was still a subject of complaint at times to a slight extent, especially after the patient had remained seated for some time. On Feb. 6, 1908, the plaster-of-Paris bed was replaced by a plaster-of-Paris spinal brace. This was made six inches wide, extending from the spine of the first dorsal vertebra to the tip of the coccyx, and having a pelvic band of steel and an apron and shoulder straps such as used with the Taylor brace. This was worn day and night for the succeeding two months, being removed but once a day to allow the back to be sponged and powdered. An unsuccessful attempt was made to isolate the typhoid bacillus from the urine and feces, though it was not expected that we should find any at this time.

Later History.—On March 20 the patient returned to his place of business, remaining for one hour. From March 27 he was actively engaged in business. He had no pain whatever, but walked with a slight scoliosis, which he said was noticeable before his present illness, the right shoulder being higher than the left, as he expressed it. There was still some slight tenderness anteriorly over the sixth costosternal articulation. The kyphosis was still perceptible, but much less prominent and distinct. The knee-jerks were slightly accentuated. The general condition was much better than it was previous to the onset of the fever in July. The plaster-of-Paris spinal brace was still being worn during the day.

This case is of particular interest because of the age of the patient and of the severity of his symptoms, in addition to the presence of a kyphosis denoting bone change. It also accentuates the importance of perfect immobilization, as has been so well emphasized by earlier writers.

125 West Fifty-eighth Street.

APPARATUS FOR CONTINUOUS SALINE ENEMAS IN PERITONITIS.

D. N. EISENDRATH, M.D.
CHICAGO.

Two of the chief factors in reducing the mortality after operations for general peritonitis have been the use of the Fowler position and the continuous rectal administration of salt solution as suggested by Dr. J. B. Murphy. One of the most difficult problems in connection with the use of salt solution per rectum has been to maintain it at a constant temperature. The usual custom is to surround a glass percolator with hot-water bags, which latter must be refilled frequently. I have devised a simple and inexpensive apparatus by which a constant temperature can be maintained either by the use of electricity or of an alcohol lamp or small Bunsen burner, and this has been employed in a number of cases at the Michael Reese Hospital.

It has seemed desirable to construct the apparatus so that either electricity or some other form of heat (gas or alcohol lamp) could be employed. It is designed on the plan of the filters which are used in bacteriologic laboratories for filtering agar agar. It is made of tin and consists of a double-walled water jacket (C) mounted on legs eight inches in height. The space within the jacket is conical and just large enough to hold a glass percolator with a capacity of one quart.

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* Read before the Orthopedic Section, New York Academy of Medicine, April 17, 1908.

Rubber tubing is attached to the lower end of the percolator and connected with an ordinary rectal tube. The flow is regulated by a special screw cock in such a manner that a drop per second escapes into the rectum. It is possible for the patient to absorb ten pints in twenty-four hours. The lower level of the water should be eight inches higher than the bed so as to permit a continuous flow. If electricity be employed as a source of heat, a special thermophore A is used, which is inserted directly into the percolator B and maintains a constant temperature of 120 F., so that, allowing for an unavoidable loss of heat, the salt solution flows into the rectum at a temperature of 95 to 100 F. The cut incorrectly shows this thermophore inserted into the outer chamber. If gas or an alcohol lamp is employed (as might be necessary in private residences) the water in the outer chamber C is heated at the projection D.

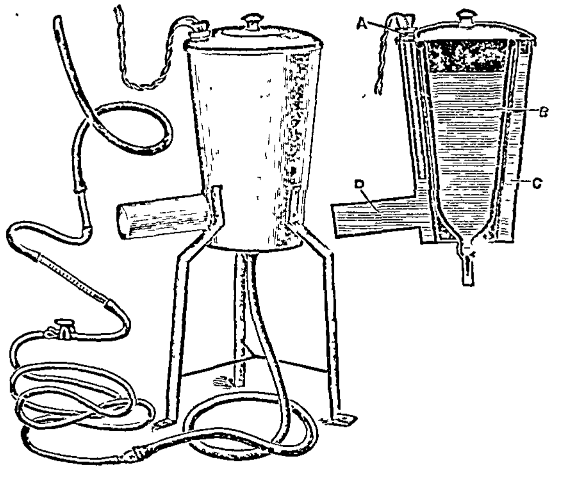

Fig. 1.—Apparatus for continuous saline enemas in peritonitis. A, thermophore; B, saline solution; C, water jacket; D, projection for heating the water over gas or alcohol flame.

103 State Street.

Therapeutics

SYPHILIS.

Dr. James Pedersen, New York, in the *Vermont Medical Monthly,* May, 1908, discusses the diagnosis and treatment of this disease. He divides the disease, as the patient first presents himself to the physician, into four groups: "In the first there is a sore, in the second a sore and an eruption, in the third either an eruption or a sore throat or both, and in the fourth there is nothing visible and, perhaps, nothing palpable. These groups are arranged in the order of their relative frequency of occurrence." Unfortunately for both physician and patient, "the typical Hunterian chancre is only found in the minority of cases." In the majority of patients the ulceration, chancre, or new growth, presents many non-typical signs. Pedersen believes that "every lesion on or about the genitals, occurring within seventy days after an opportunity for infection, may be a point of syphilitic inoculation." He also believes that "every genital ulcer, however simple or however serious, should be regarded as the possible site of a mixed infection." Such suspicious ulcers should not be cauterized unless the ulceration tends to spread rapidly or to erode. In doubtful cases the physician should express the probabilities to the patient, but mercurial treatment should be withheld "until the secretion from the ulcer has shown the *Spirochæta pallida* or until enlarged inguinal glands, eruption or mucous patches in the throat have appeared." Pedersen does not believe that too much value should be placed "on the enlargement of the epitrochlear and axillary glands, especially in patients doing work that exposes the hands to frequent trauma."

While many writers on this subject believe that specific treatment should not be begun until the first eruption appears, Pedersen thinks that a doubtful case may be diagnosed and the treatment begun "when such symptoms as lassitude, headache, fever and nocturnal bone pain occur in such suspected patients." Such patients may have albuminuria and enlarged spleen, he states. It would seem generally advisable, however, in order to obtain the continued cooperation of the patient for the number of years that he must be treated, that, except in rare instances, specific treatment should not be begun until the first secondary symptoms are in evidence.

Pedersen emphasizes the great importance of general hygienic treatment in conjunction with the administration of the necessary drugs. In doubtful cases he would begin the preparation of the patient, if possible, by giving a *vacation in which he spends his whole energies in improving* his general health. Such a preparation of the patient, unfortunately, would ordinarily be difficult to institute. It should be emphasized, however, that, as Pedersen states, a nutritious, simple diet, total abstinence from alcohol and tobacco, a proper amount of fresh air and a proper amount of physical exercise are essential to the tolerance of the disease and the mercury.

Cauterization of the initial sore should be avoided, if possible, until the diagnosis has been established. Also no mercurial dressings should be applied until such a diagnosis has been made. Ordinarily cleanliness and protection and other antiseptics than mercury may be used. If the diagnosis is positive, cauterization may be done, but not frequently, and some mild mercurial dressing may then be applied. But whatever the dressing, *it should not be irritant lest it cause inflammation* of the surrounding tissues. If the chancre is syphilitic, when it is deemed best to administer mercury internally, it will rapidly heal without local mercurial applications.

During the mercurial treatment the patient should drink plenty of water to promote the activity of all the organs of excretion. The mercury will probably soon cause sufficient or even perhaps too frequent movements of the bowels. The care of the mouth, teeth and gums is important, and the patient can not be too carefully instructed in this matter. Any alkaline wash, or, if there are any erosions, peroxid of hydrogen applications, or a mouth wash of alcohol one part and water three parts, or a potassium chlorate mouth wash, and occasionally tannic acid washes and gargles are useful. Ulcerations in the mouth and throat will often heal rapidly after one or two applications of a 25 per cent. solution of nitrate of silver. Without ulceration in the mouth and throat the mucous membrane may be kept healthy by a thorough cleaning of the teeth two or three times daily, and the cleansing of the mouth and throat with alkaline solutions as represented by the following.

℞.	c.c.		
Liquoris antiseptici alkalini (N. F.)	500	or	Oi

Sig.: Dilute with equal part of warm water and use three times daily as a mouth wash.

If there is simply a general redness and soreness of the mouth and gums, there is no application more soothing than potassium chlorate solution, as:

℞.	gm. or c.c.		
Potassii chloratis	25	or	℥i
Aquæ	500		Oi

M. et sig.: Use, undiluted, as a mouth wash or gargle, two or three times a day.

If there is any purulent condition of the mouth or gums, or any cavities of the teeth that can not be attended to immediately by a dentist (who should be told what disease the patient has for his own protection and that of the rest of his clientele), a dilute solution of peroxid of hydrogen makes the best cleansing mouth wash, as:

℞	c.c.		
Aquæ hydrogenii dioxidi	250	or	Oss

Sig.: Dilute with four parts of warm water and use, three times daily, as a mouth wash.

Directly after using a peroxid solution the mouth should be cleansed with plain water or, better, an alkaline solution, as the above.

If it is thought best to use a tannic acid solution to cause a flabby mucous membrane to become more healthy, it may be used as follows:

℞.	gm. or c.c.		
Acidi tannici	5		ʒiss
Glycerini	10	or	flʒiii
Aquæ, ad	200		ad fl℥vi

M. et sig.: Use, undiluted, as a mouth wash or gargle, three or four times a day.

The patient should be thoroughly instructed as to the danger of his infecting others and the manner of such infection, as by napkins, towels, drinking cups, spoons, forks, or kissing. Such instructions should be most explicitly given if there are mucous patches in the throat.

There is as yet no serum treatment for syphilis, and there is no medicinal treatment whose success is at all comparable to that of mercury and an iodid. Probably the most frequent forms of mercury used internally are the protiodid (the green or yellow iodid), the biniodid (the red iodid), the bichlorid (corrosive sublimate), calomel, and blue mass, and the frequency of their use is probably in the order named. For inunction the blue ointment or the oleate may be used, and for hypodermatic administration Pedersen says that four forms of mercury are available: the bichlorid, the salicylate, the biniodid, and the mild chlorid (calomel). Mercurial fumigation should rarely, if ever, be done, as the amount that may be absorbed is beyond regulation and sufficient may be taken into the system to cause serious symptoms.

Hypodermatic administration is used when the disease must be gotten under immediate control, when the lesions are likely to become serious, as eroding ulcerations with perhaps palate perforations, or nasal perforations, or symptoms showing that gummata are forming in the central nervous system or elsewhere, or when inunctions are inadequate and medication by the mouth causes uncontrollable gastrointestinal disturbances. In rare instances hypodermatic medication may be used when it is necessary that the patient's family should not know that he is receiving medication. Some physicians advocate the hypodermatic administration of mercury in every case of syphilis; the majority of physicians, however, have not adopted it. The advantages are that the patient comes more quickly under the influence of the drug, and one injection gives sufficient mercury for absorption to last a number of days (from five to seven), this infrequency when the symptoms are not serious. The disadvantage, and the reason that it is generally not selected by physicians, is the discomfort that it almost invariably causes. An all-glass syringe with a needle at least two inches long is used and the injection is generally made deeply into the gluteal muscles. Pedersen recommends as preferable for this purpose a bichlorid of mercury solution of the strength of ⅛ of a grain in 5 minims. This strength allows the physician to run up the dose from 5 to 10 minims, the capacity of an ordinary hypodermic syringe, allowing sufficient dilution. Hypodermic tablets of corrosive sublimate may be dissolved in sterile water at the time of the injection, or, as recommended, the following solution may be used:

℞.	gm. or c.c.		
Hydrargyri chloridi corrosivi	.625		gr. xii
Aquæ destillatæ	25	or	fl℥i

M. et sig.: Corrosive sublimate for hypodermic use.
[Each .30 c.c. = .008 gm.] [Each 5 m. = ⅛ gr.]

Sometimes the salicylate of mercury is preferred, and this may be suspended in an oil. The dose is from ¾ of a grain (.045 gm.) up. This salt does not cause pain after injection.

The injection treatment of syphilis was further discussed in The Journal, July, 27, 1907, page 339. Dr. William S. Gottheil's article in The Journal for August 3, 1907, page 365, should also be referred to. The intravenous treatment of syphilis was discussed by Dr. G. Frank Lydston in The Journal, Nov. 16, 1907, page 1662.

The yellow iodid, or the red iodid, or the bichlorid of mercury, are the best salts of mercury for internal administration. The dose should begin small and gradually increase to the point of tolerance, unless before such a dose is reached the local lesions begin to disappear.

The teeth and gums should be carefully watched, and while it may be necessary to cause a little tenderness of the gums, stomatitis should not be allowed to develop except, perhaps, unavoidably in unexpected cases of idiosyncrasy to mercury. If nausea and vomiting, or diarrhea occur, the mercury must be stopped and some astringent iron administered. A slight looseness of the bowels may be tolerated. Sometimes it is advisable for a short period, until tolerance to mercury is acquired, to give a small daily dose of opium or morphin, as perhaps 1/10 of a grain of morphin once or, at most, twice a day. Such should not be long continued, and it rarely is necessary. It is also generally advisable, at least in the early months of the treatment, to give some iron daily, either as Blaud pill or reduced iron tablet, in a dose of 3 grains, three times a day, after meals. Whether or not a bitter tonic is needed depends on the appetite of the patient. During all the early stages of syphilis the patient should be encouraged and his fears of future usefulness, or permanent or transmittable disease, quieted.

If it is deemed best to give the mercury by inunction the oleate is perhaps the best preparation, and a small amount, from the size of a pea to the size of a hazelnut may be rubbed into different parts of the body. This should generally be done daily, then every other day, and later every third day. The patient should first prepare the part, and this had best be the inside of the thigh or the inside of the upper arm, or the side of the abdomen, and the parts used should be alternated and the round made from one part to the next in regular series. The skin should first be washed with soap and water, then dried, and then the oleate rubbed in. As soon as it is thoroughly rubbed in the part may be covered with a piece of flannel pinned to the underclothing. This allows absorption to continue and prevents staining the clothing. At least twice a week the patient should have a good hot bath, and, in fact, a patient under any continuous administration of mercury should have tub baths at least twice a week.

The length of time mercury should be given before the dose be reduced or when it may be intermitted, or whether or not it should be administered for the whole period of three years, is a subject still open to discussion. Pedersen does not state when a dose found sufficient should be diminished, but he does believe that the mercury should be given, or at least the treatment, for three years.

The question as to when an iodid should be given, or how long, or whether an iodid and mercury should be administered simultaneously, or when an iodid may be substituted for the mercury, is again a subject open for discussion. As Pedersen well shows, no hard and fast rule can be laid down for the administration of an iodid, but he advises that a squamous or a tubercular syphilide should call for both mercury and iodid of potassium treatment. Also when there is gummatous formation he believes the mixed treatment should be given. It is still a question whether, with no symptoms present, mercury should be continued through the three years or whether iodid should be substituted. It is also not positively demonstrated that mercury having long been administered may not remain deposited in different parts of the body, and doses of iodid given continuously may liberate such deposited mercury. In other words, the patient may possibly be still undergoing the action of mercury, although no fresh mercury is at this time administered. It seems advisable, however, with definite syphilitic manifestations, even with definite secondary, especially tertiary manifestations of syphilis, to use the mixed treatment. The patient is thus given every chance of the lesion becoming healed.

While the iodid of potassium is the salt most generally used, the sodium iodid is perhaps preferable, since the sodium element is not as debilitating to muscle tissue as is the potassium. This is especially true of the cardiac muscle. Hence when large doses must be given, or when the dosage must be prolonged, the iodid of sodium should be preferred. This salt also sometimes seems less likely to disturb the stomach.

The symptoms of iodism should be avoided if possible. These symptoms are coryza, frontal headache, reddening of the eyelids, a strong, metallic taste in the mouth, sometimes a profuse flow of saliva and gastric indigestion. It is unimportant whether the iodid is ordered largely diluted or in saturated solution, but it should never be ordered in any syrupy, nasty mixture. It is preferably administered in milk or in an alkaline water. It is generally best administered after a meal, theoretically best an hour after meals, as it slightly inhibits digestion. When an iodid is administered the yellow iodid, i. e., the protoiodid, of mercury should not be the salt selected for simultaneous administration, as it is likely to be chemically changed into the biniodid (red iodid) of mercury, which salt would then be present in a poisonous quantity. The following prescriptions may be used:

℞.	gm.	
Sodii iodidi	25	
Aquæ destillatæ, q. s. ad saturandum		q. s. ad sat. or ℥i

M. et sig.: Five drops with milk or water, three times a day, after meals.

Each drop of this solution represents a grain of the drug. The dose should be gradually increased until the amount given is deemed sufficient.

Or

℞.	gm. or c.c.	
Potassii iodidi	10	or ʒiiss
Aquæ	100	fl℥iii

M. et sig.: One-half a teaspoonful, in milk or water, three times a day, after meals.

The iodids have been given in enormous doses, especially where gummata of the central nervous system has been diagnosed. It is a question whether such large doses are justifiable and even whether such large doses are of advantage. It is probable that ordinary fair-sized doses can do as much chemical and biologic good in causing resorption of connective tissue formations, the blood and cells being only able to absorb and utilize a certain amount of iodin, as could possibly be caused by enormous doses. In other words, enormous doses are illogical and are probably rapidly passed out of the body by the excretions.

Various other preparations of iodin are offered which are said to have the advantage of the above iodids in that they do not cause disurbance of the stomach and that they do not as readily cause iodism. When these preparations are analyzed and the exact amount of iodin which they contain discovered it is seen that the reason that they do not cause these symptoms is because the amount of iodin is so small. Consequently, if iodism is caused by potassium or sodium iodid, or they are not tolerated by the stomach, all the physician needs to do is to reduce the dose to that which will not cause disturbing symptoms, and it will then be as large a dose of iodin as would be given by an ordinary dose of one of the patented preparations.

It is possible that the thyroid gland is caused to atrophy earlier than normally by the prolonged action of mercury, and this may be a reason why in the later stages of syphilis, when connective tissue processes are so likely to develop, arteriosclerosis, locomotor ataxia, or some other sclerosis, that the iodids have been found to be of such value. An iodid in ordinary doses certainly stimulates the thyroid gland, and it is quite likely that when the condition to be combated is not serious, in the later stages of syphilis, a small dose of thyroid gland, as represented by two or three grains of the dried extract each day, may prove a valuable adjunct to the late treatment of syphilis, and may prevent, if given for a short period during each year, some of the degenerations which develop in patients who have had syphilis years before.

Thoroughness.—There are men who succeeded in the practice of medicine because of the single habit of thoroughness. The patients are completely examined and in an aggregate of cases though possessed of mediocre ability a large number of good diagnoses must result. A complete examination not only inspires the patient's confidence, but the physician's confidence in himself, and that in turn is felt strongly by the patient.—*Leucocyte.*

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TUMORS OF THE TESTICLE.

Between the tubules of the adult testicle lie groups and strands of cells which are distinguished from ordinary stroma cells by their well developed cytoplasm, and whose structure is such as to suggest an active function. First described by Leydig in 1850 they have occasionally been referred to as "Leydig's interstitial cells," and in some of the other mammals they have been found to be more highly developed than in man. The French physiologists and pathologists in particular have maintained that these cells are responsible for the internal secretion through which the testicle influences the general metabolism, the development and the psychology of the adolescent and adult male. For analogy they may be likened to the islands of Langerhans of the pancreas, which are developed in the interstitial tissue between the proper tubules of the gland, and which produce the internal secretion of the organ while the tubules produce the external secretion. As evidence of the functional activity of these cells the following facts may be cited: If, because of obstruction of the seminal passages, the seminiferous cells of the testicle undergo atrophy, the evident effects of the internal secretion of the testicle are not lost, and the interstitial cells are found to persist. In cryptorchids with normal sexual development these interstitial cells are always found to be well developed, while in cryptorchids that fail to develop these structures are found wanting or hypoplastic; removal of retained testicle from cryptorchids produces the same effects on development and sexual activity as removal of normal testicles, although such retained testicles possess no seminiferous structures, but only the interstitial cells. If in animals with one undescended testicle the normal testicle is removed the animal usually develops normally, and in such cases the retained testicle will show what seems to be a compensatory hyperplasia of the interstitial cells.

In man the interstitial cells reach their greatest development in retained testicles, especially in cases of bilateral cryptorchidism. In such testicles, with poorly developed seminiferous tubules, the interstitial cells may form more of the total bulk of the organ than the tubular structures, and sometimes their volume is such as to compensate for the loss of tubular elements so that the testicle may be of normal size. Dürck[1] has described as a special pathologic entity a form of hyperplasia of the interstitial cells, which he believes is primary and leads to a secondary atrophy of the seminiferous elements. This process occurs not only in ectopic testicles, but also in those in the normal site, and the proliferation sometimes takes on so extensive a character as to result in an actual tumor formation. Although it may be difficult to accept Dürck's idea of a primary hyperplasia of these cells leading to destruction of the other proper elements of the testicle, yet there can be little question that tumors of peculiar interest may arise from these interstitial cells. Pathologists have long known that the differentiation of many of the tumors of the testicle is often extremely difficult and peculiar forms of new growths are met with which are variously interpreted as sarcoma, endothelioma, perithelioma, angio-sarcoma, and even carcinoma. It is also well recognized that retained testicles are peculiarly prone to undergo malignant transformation, and it would seem that many of these tumors, both of ectopic and normal testicles, represent new growths derived from the interstitial cells.

Such tumors were recognized and described by a few pathologists years ago, but the subject is now again brought to light by the independent studies of Chevassu[2] in Paris and Kaufmann[3] in Göttingen, both of whom maintain the individuality of the tumors arising from the interstitial cells. In connection with the view that these cells are responsible for the internal secretion of the testicle, it is of interest to note that one of Kaufmann's specimens was removed from a mentally defective individual who was said to be sexually perverted. In all probability now that the characteristics of these tumors have been described they will be found to be not at all uncommon, and many pathologists will recall instances of testicular tumors of doubtful nature which were probably of this type.

THE ETIOLOGY OF PULMONARY TUBERCULOSIS.

The present status of the question of the interrelations between bovine and human tuberculosis is ably summarized by Sir William Whitla, in the recent Cavendish lecture.[4] He details the salient points of the question from the discovery by Koch, in 1882, of the tubercle bacillus, and the subsequent startling announcement by the latter in 1901, of a specific difference between the bovine and the human types of tubercle bacilli. This announcement carried with it the revolutionary corollaries, first, that the human variety of microorganism can not produce tuberculosis in bovines; and second, the far more pregnant one, if true, that the bovine variety can not produce tuberculosis in humans.

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These conclusions were so at variance with the accumulated experience of clinical observers that they raised a storm of protest, which naturally stimulated reinvestigation by a host of workers, with a view to proving or disproving Koch's pronouncements. "To any one," says Whitla, "who attempts to survey the extensive literature of this portion of the tuberculosis problem accumulated during the past six or seven years, the contradictory nature of the experimental results at first sight appears really astounding. Nevertheless," he continues, "amidst the chaos of conflicting opinions light can be discerned as clearly breaking, and I believe we are safe in concluding that the main issue has been demonstrated, even by the results of those experimentalists who still cling to a belief in there being a specific difference between human and bovine tuberculosis."

To physicians and sanitarians a clear understanding of the tuberculosis problem is obviously essential, since "as long as doubt or confusion exists, regarding the fundamental question of the practical identity or otherwise of bovine and human tuberculosis," all efforts toward efficient prophylaxis must be paralyzed. But, as Whitla says, the problem has "been so thoroughly attacked from so many standpoints that it is now safe to affirm that the main issue has been made clear," notwithstanding minor differences.

In 1898, Theobald Smith established "several decided differences between the human and bovine types," which are now accepted "both by the few who still cling to Koch's view and by those most strongly opposed to his conclusions." These differences are: 1, morphologic; 2, cultural; 3, chemical changes in the media, and, 4, differences of pathologic activity. Whitla describes the first three and then discusses the all-important fourth. Experiments with rabbits, guinea-pigs, and swine show clearly that these animals are all susceptible to infection by both types. The difference is not specific, but one merely of degree. While goats are much less susceptible to human than to bovine tuberculosis, Calmette and Guérin have shown that, not even in the insusceptible goat has there been established any fundamental difference between the action of the human and the bovine types of bacillus. As to the ox, it must be at once admitted, says Whitla, that the bovine type of bacillus exhibits for bovines a much higher infective potentiality than that of the human type. Regarding the converse view—that bovine tuberculosis is to be regarded as practically non-transmissible to humans—Whitla admits that its actual truth or fallacy is "outside the scope of direct experimentation," but he adds, "I am not without hope of being able to convince my hearers that its fallacy has been already amply proven by the very researches which are supposed to demonstrate the impossibility of producing bovine tuberculosis by the human bacillus." He then cites the inoculation experiments of Kossel, Weber and Heuss, for the German Imperial Health Council, which are held to establish a fundamental distinction between the human and bovine types of tubercle bacilli. But he points out that, even if we accept these experiments unreservedly as absolutely conclusive proof of a true specific difference between the types, we are confronted by the fact that although it is unanimously admitted that the human type is not found in bovines, "there is practically the same unanimity that the so-called bovine type is often found in human tuberculosis." The only difference of authorities is as to the frequency with which it is so found. The experiments above cited, while showing that human bacilli inoculated into calves produced only local implication of the shoulder glands, also showed that young oxen inoculated with a similar dose of bacilli of the bovine type derived from human tuberculous lesions all sickened with general tuberculosis. Whitla further cites the statement of Weber, a firm believer in the constant differences between the human and bovine type, that "it must be emphasized that between the bacilli of the bovine type coming from the ox and the pig and the bacilli of bovine type bred from human tuberculosis, there exists no difference as regards their virulence for oxen." Whitla continues: "If we accept the view of Koch, that there is a vital or specific difference between the bacilli of human and bovine tuberculosis, the question has got to be answered, 'Whence come the bacilli of bovine type which so constantly are to be found in a considerable percentage of cases of human tuberculosis?' The answer can only be found in the obvious transmissibility of the tuberculosis of bovines to man, or else in an assumption which practically amounts to the same thing, that the ox and the human derive their infection from a common source. It would thus appear that the more important of Koch's two statements is amply disproven by the results obtained by his own followers who have labored to demonstrate that human tuberculosis can not be transmitted to the ox." But Whitla points out that even this last contention can not be proved, and that many experimenters have obtained results directly at variance therewith, and have further demonstrated to their entire satisfaction the practical identity of human and bovine bacilli. He accordingly accepts "the conclusions of the great majority of all recent workers in their agreement about the practical identity of human and bovine tuberculosis." He then passes to a consideration of the portal of entry of the bacillus and endeavors to show that "the intestinal route plays a far more important rôle in the production of human pulmonary tuberculosis than has been hitherto recognized."

It may, therefore, be unhesitatingly stated that, for practical purposes, at any rate, the possibility of tuberculosis being conveyed from bovines to humans must be admitted; it remains now to settle to what extent and by what channels such transmission takes place.

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These conclusions were so at variance with the accumulated experience of clinical observers that they raised a storm of protest, which naturally stimulated reinvestigation by a host of workers, with a view to proving or disproving Koch's pronouncements. "To any one," says Whitla, "who attempts to survey the extensive literature of this portion of the tuberculosis problem accumulated during the past six or seven years, the contradictory nature of the experimental results at first sight appears really astounding. Nevertheless," he continues, "amidst the chaos of conflicting opinions light can be discerned as clearly breaking, and I believe we are safe in concluding that the main issue has been demonstrated, even by the results of those experimentalists who still cling to a belief in there being a specific difference between human and bovine tuberculosis."

To physicians and sanitarians a clear understanding of the tuberculosis problem is obviously essential, since "as long as doubt or confusion exists, regarding the fundamental question of the practical identity or otherwise of bovine and human tuberculosis," all efforts toward efficient prophylaxis must be paralyzed. But, as Whitla says, the problem has "been so thoroughly attacked from so many standpoints that it is now safe to affirm that the main issue has been made clear," notwithstanding minor differences.

In 1898, Theobald Smith established "several decided differences between the human and bovine types," which are now accepted "both by the few who still cling to Koch's view and by those most strongly opposed to his conclusions." These differences are: 1, morphologic; 2, cultural; 3, chemical changes in the media, and, 4, differences of pathologic activity. Whitla describes the first three and then discusses the all-important fourth. Experiments with rabbits, guinea-pigs, and swine show clearly that these animals are all susceptible to infection by both types. The difference is not specific, but one merely of degree. While goats are much less susceptible to human than to bovine tuberculosis, Calmette and Guérin have shown that, not even in the insusceptible goat has there been established any fundamental difference between the action of the human and the bovine types of bacillus. As to the ox, it must be at once admitted, says Whitla, that the bovine type of bacillus exhibits for bovines a much higher infective potentiality than that of the human type. Regarding the converse view—that bovine tuberculosis is to be regarded as practically non-transmissible to humans—Whitla admits that its actual truth or fallacy is "outside the scope of direct experimentation," but he adds, "I am not without hope of being able to convince my hearers that its fallacy has been already amply proven by the very researches which are supposed to demonstrate the impossibility of producing bovine tuberculosis by the human bacillus." He then cites the inoculation experiments of Kossel, Weber and Heuss, for the German Imperial Health Council, which are held to establish a fundamental distinction between the human and bovine types of tubercle bacilli. But he points out that, even if we accept these experiments unreservedly as absolutely conclusive proof of a true specific difference between the types, we are confronted by the fact that although it is unanimously admitted that the human type is not found in bovines, "there is practically the same unanimity that the so-called bovine type is often found in human tuberculosis." The only difference of authorities is as to the frequency with which it is so found. The experiments above cited, while showing that human bacilli inoculated into calves produced only local implication of the shoulder glands, also showed that young oxen inoculated with a similar dose of bacilli of the bovine type derived from human tuberculous lesions all sickened with general tuberculosis. Whitla further cites the statement of Weber, a firm believer in the constant differences between the human and bovine type, that "it must be emphasized that between the bacilli of the bovine type coming from the ox and the pig and the bacilli of bovine type bred from human tuberculosis, there exists no difference as regards their virulence for oxen." Whitla continues: "If we accept the view of Koch, that there is a vital or specific difference between the bacilli of human and bovine tuberculosis, the question has got to be answered, 'Whence come the bacilli of bovine type which so constantly are to be found in a considerable percentage of cases of human tuberculosis?' The answer can only be found in the obvious transmissibility of the tuberculosis of bovines to man, or else in an assumption which practically amounts to the same thing, that the ox and the human derive their infection from a common source. It would thus appear that the more important of Koch's two statements is amply disproven by the results obtained by his own followers who have labored to demonstrate that human tuberculosis can not be transmitted to the ox." But Whitla points out that even this last contention can not be proved, and that many experimenters have obtained results directly at variance therewith, and have further demonstrated to their entire satisfaction the practical identity of human and bovine bacilli. He accordingly accepts "the conclusions of the great majority of all recent workers in their agreement about the practical identity of human and bovine tuberculosis." He then passes to a consideration of the portal of entry of the bacillus and endeavors to show that "the intestinal route plays a far more important rôle in the production of human pulmonary tuberculosis than has been hitherto recognized."

It may, therefore, be unhesitatingly stated that, for practical purposes, at any rate, the possibility of tuberculosis being conveyed from bovines to humans must be admitted; it remains now to settle to what extent and by what channels such transmission takes place.

ORGANIZED RESCUE WORK IN MINES.

Several recent explosions in mines, notably that at Courrières, in France, where hundreds of men lost their lives, while the evidence showed that they were alive long after the time when they were supposed to have perished, have impressed on governments the necessity for effective, properly organized rescue work. A government report, recently issued,[1] contains a review of what is being done in Europe for the organization of rescue work after serious accidents or explosions in mines.

There have been several such disasters in this country in recent years that make the subject of special importance to us. When an accident happens in a mine the readiness of comrades to risk their lives to save those who are in danger is the principal feature of the rescue work. As a rule, however, these men are but ill-trained, and dependable apparatus is not provided to enable them to penetrate some distance into the mine in spite of the presence of "after-damp." If it were provided, and if the men were trained in its use, very effective rescue work might be accomplished without that delay which renders the death of the victims almost inevitable.

The particular needs for these emergencies are breathing apparatus and a trained corps of rescuers who know the dangers and have been taught how to avoid them, or at least how to minimize them to a great degree. Both these requirements demand the assistance and oversight of physicians, or at least of those who understand respiratory dangers and are able to pick out proper subjects for such rescue work and to recognize the earliest signs of approaching exhaustion. In Austria and France the provision of rescue apparatus in mines is now made compulsory by law. In Germany it has been voluntarily adopted in all collieries. In Russia, when over fifty men are employed in one mine, it is provided that "every colliery where more than fifty miners are at work must have a rescue corps trained to work in irrespirable gases, that the number of men in such a corps must be equivalent to 4 per cent. of the miners at work, and that at least three sets of breathing apparatus fully equipped must be kept in readiness by each colliery." The breathing apparatus principally in use is a helmet appliance somewhat resembling a diver's helmet, through which fresh air is supplied from a distance by means of tubes, the respired air being conducted away. In recent years a pneumatophore has come into use and has given considerable satisfaction. In this the expired air passes through chemicals by which it is regenerated and can be breathed over again. This can be depended on to allow a man to work in irrespirable air for two hours.

It is felt, however, that the most important part of the work is the training of rescuers. This is now being done at a number of places in England and Scotland. A certain number of men are trained at each colliery, and in case of an accident those from near-by collieries are summoned by telephone so that a considerable body of trained rescuers becomes available without much delay. A recent report of a commission appointed to investigate this subject, the commission consisting of practical mining engineers and medical and other experts, advised that at least thirty men in each colliery should be given regular instructions in the use of the various methods necessary in restoring ventilation to the shut-off portion of the mine as soon as possible and in rapidly bringing aid to those who are the victims of the after-damp of the explosion. The whole subject is in line with humanitarian advance and appeals to physicians more than to any others in the community. Such precautions will not often prove life-saving, but when they do they will, as a rule, prove the means of rescuing not a few but the many men who are likely to be imprisoned or overcome in these sad disasters.

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[1] Daily Consular and Trade Reports. Bureau of Manufactures, U. S. Department of Commerce and Labor, June 25, 1908.

THE WHITE RACE IN THE TROPICS.

The optimistic opinions credited to Dr. Gorgas and others, as to the conquest of the tropics for the white man by the recent developments of medical science, are decidedly contradictory to the general ideas as to the essential unhealthfulness of those regions for our race. It has been demonstrated that the great scourges of malaria and yellow fever are avoidable, that the cause of tropical anemia is a controllable parasite and that the death rate in well-governed tropical cities can be brought down to a figure comparable to that of many municipalities in the temperate zone. A temporary residence in the tropics has lost many of its former terrors. The question still remains whether the northern races can permanently occupy the equatorial regions of the earth without disaster, or, at least, without undergoing mental and physical deterioration in the course of time from the effects of climate alone, admitting that the parasitic diseases of the tropics can be conquered.

In his recent article in The Journal[1] Anderson takes the extreme position that the tropics are deadly to the morale and vigor of the northern races and that only black and brown races can thrive or can successfully survive in these most productive portions of the globe. The historical facts which Anderson adduces in support of his views, however, lose most of their force when we consider that they all are of a date prior to the recent discoveries and many of them are, aside from this, poorly chosen for his argument. Buccaneering and military expeditions are not colonies and their disasters are not good evidence of the impossibility of serious attempts at colonization. For centuries the Spanish and Portuguese were the only nations permitted to colonize Latin America, and their active opposition was, as much as the climate, the reason of the failure of the one or two not very well organized attempts of colonists of the more northern Europeans in those regions. Against the failures we may place the successful colonizations of the English in tropical Australia, the Germans in Brazil, the Americans in Hawaii, to say nothing of our own Gulf coast, which is at least subtropical. There is, moreover, no evidence that Germans or Anglo-Saxons would not have made as successful colonists in Spanish America, had they been permitted or sufficiently attracted there, as the Spaniards themselves.

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[1] The Journal A. M. A., May 30, 1908.

It is still generally assumed that whites are unfit for hard physical labor in the tropics and that, subjected to such conditions, they must necessarily succumb. It is not absolutely proved, however, that this is anything more than an assumption, if the infectious and parasitic diseases of those regions can be guarded against. Undoubtedly there would be some physical changes and possibly other modifications, but whether any that would affect the vitality or virility of the race, if correct sanitary conditions can be secured, has not yet been demonstrated. Whether the modified tropical white man will be the moral and physical equal of the white man of temperate regions may be a question; humidity and heat combined are not favorable to the more intensified activity demanded by our highest civilization. There is a rational possibility, however, that if the hostile organisms of the tropics can be kept in abeyance those regions will in the future become far more habitable for the higher races than they have been in the past, and with the improvement of the means of communication the white man may in time become a bird of passage, so to speak, utilizing alike all latitudes.

COOPERATION BETWEEN THE MEDICAL PROFESSION AND LEGISLATURES.

The *West Virginia Medical Journal* for June contains an account of the recent meeting of the state association together with some editorial comments thereon. One paragraph in particular is worthy of note:

> For the first time in its history the West Virginia Medical Association was officially recognized as an important factor in the public affairs of the state. A committee appointed at the recent extra session of the legislature for that purpose appeared before it to confer on the matter of a state tuberculosis sanitarium and to ask that a committee be appointed from its membership to advise and assist the legislative committee in the formulation of plans for such an establishment. This is the most auspicious beginning of what, we trust, will be a continued, although too long delayed, recognition of our association in matters of public and state concern.

This action of the state legislature is a striking sign of the change which has taken place regarding the attitude of the medical profession and the public to each other. There is no reason why important questions of public policy involving hygiene and sanitation which arise in each state should not be referred to the state society for advice and suggestions. Such cooperation will prevent some of the absurd blunders which have been made in past years by lawmakers who have attempted to legislate on scientific matters and will greatly redound to the benefit of the people of the state. Such advances on the part of state legislatures should be encouraged in every way possible and members of our lawmaking bodies should be given to understand that the entire medical organization, from the county societies to the national body, stands ready at all times to assist by advice or suggestion in furthering the best interests of the people.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The International Congress on Tuberculosis which convenes in Washington next month—September 21 to October 12—undoubtedly will be the most important of any meeting ever held for the discussion of the important question of tuberculosis. For this reason, and because it is to be held in this country, every American physician should help to make it a success, and one evidence of success will be a large active membership. If the coming congress is to compare favorably with that of Paris in 1905, the United States should furnish ten thousand active members, according to a statement issued by the secretary-general. If such a membership be attained, it must be through the hearty cooperation of every physician interested. It is therefore hoped that all who are able will enroll themselves as active members and in addition urge others to do so. There will be a full equivalent for the $5 membership fee in the reports and publications of the congress, in addition to the fact that a splendid cause is being supported. Membership should be obtained as soon as possible, as the officials in making the preliminary arrangements want an approximate idea of the number who will attend. Applications may be sent to Dr. John S. Fulton, secretary-general, Washington, D. C., from whom also all information regarding the congress can be obtained.

THE LACK OF VITAL STATISTICS.

Under the facetious but pertinent heading, "Glass Houses," Dr. Cressy L. Wilbur, chief statistician of the Bureau of the Census, comments[1] on the frequent publication of the item about vital statistics in Turkey. To the question, "What is the death rate in your country?" the Turk is made to answer, "It is the will of Allah that all should die. Some die young, and some die old." To the question, "What is the annual number of births?" the Turk replies, "God alone can say—I do not know and hesitate to inquire." Dr. Wilbur very frankly calls attention to the fact that the American can give answers that are but little, if any more satisfactory than those given by the Turk. As to the death rate in the United States, the government has been endeavoring to find this out since 1850. The registration of deaths is dependent on the enactment and enforcement of state laws or city ordinances and only fifteen of the forty-six states have been accepted by the Bureau of the Census as having sufficiently complete registration of deaths so as to be dependable. As to births. the American does not know the exact number of births each year for his country as a whole nor for a single state, nor even for a single city. He also "hesitates to enquire" and has been hesitating for over a half a century, to take this matter up in a business-like and effective way. That one of the most enlightened countries on earth should even be comparable with the "unspeakable Turk" in the matter of vital statistics. is in itself, intolerable. There are signs, however, that this bad record is to be bettered and it is well worth the attention of all who can influence legislation on the subject.

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[1] Charities and the Commons, July 4, 1908, p. 449.

A PREVENTORIUM LEAGUE.

Dr. William Ewart, in the July *Practitioner*, urges the formation of a league for the education of the profession and the public to the realization of the wider benefits that would accrue to the state from the establishment of "preventoria," rather than of sanatoria. By "preventoria" he means institutions — which need not be at all costly—to check the spread of tuberculosis at its source. This would be done by receiving and caring for children who are at present being systematically infected at home, through those cases of tuberculosis that are too advanced or too numerous for the sanatoria to receive. The home infection of the young is undoubtedly a most fertile source of the spread of tuberculosis, and the prevention of its inception in children is surely a still more important measure than the prevention of its further development in those already affected.

MR. TAFT ENDORSES A HEALTH BUREAU.

In his speech accepting the Republican nomination for President, Mr. Taft says: "I have long been of the opinion that the various agencies of the national government established for the preservation of the national health, scattered through several departments, should be rendered more efficient by uniting them in a bureau of the government under a competent head, and that I understand to be, in effect, the recommendation of both parties." There is probably no one better informed regarding the details of organization of the federal government than Mr. Taft, nor any one better qualified to understand the advantages to the public and the nation which would accrue from uniting all of our national public health agencies into a single compact organization. Mr. Taft's record as an executive officer is ample guarantee of action on this question, should he be elected president. As the Democratic national convention at Denver adopted a strong plank endorsing a bureau of public health, we may expect an equally positive endorsement from Mr. Bryan in his speech accepting the Democratic nomination. A plan endorsed by the two dominant parties should not fail of success. The question has no partisan aspects, and when presented for consideration to Congress at the proper time undoubtedly will have the support of all members regardless of party affiliations.

Vaccination in England.—The duties of the public vaccinator are rapidly disappearing in many small English towns by the inhabitants availing themselves of the conscientious objectors' declaration act.—*Med. Record*, June 27, 1908.

Medical News

DISTRICT OF COLUMBIA.

To Enforce Food Law.—As a result of the recent decision of the police court that prosecutions for the alleged sale of impure milk and food products can not be conducted by the District of Columbia, the Secretary of Agriculture has designated Dr. R. L. Lynch, district chemist, as a special assistant in the bureau of chemistry. Violations of the Pure Food Law will be prosecuted by the Department of Agriculture acting on data furnished by the health department.

Vital Statistics.—During the week ended July 4, there were reported to the health department of the district 136 deaths; diarrheal diseases leading with 29, followed by heart disease with 14, and tuberculosis with 13 deaths. Of the decedents 37 were under one year of age; 20 were 70 years old or over. During the same week 145 births were reported.——On July 4 there were reported in the district 339 cases of measles, 20 of whooping cough, 107 of chickenpox, 83 of typhoid fever, 12 of scarlet fever, and 7 of diphtheria.——The health and mortality record for the week ended July 18 shows that there were 142 deaths; an increase of two over the mortality of the previous week. There were also 142 births, of which 104 were white and 38 colored.

ILLINOIS.

Chicago.

Personal.—Dr. Clarence S. Yoakum has been appointed instructor in physiology at the University of Texas.——Dr. and Mrs. Wiliam N. Senn, Dr. and Mrs. John B. Murphy, Dr. David F. Monash and Dr. and Mrs. Henry S. Tucker have sailed for Europe.——Dr. William A. Evans has been made professor of sanitary science at Northwestern University Medical School.——Dr. Thomas J. Sullivan has been made chief of staff, and Dr. Charles P. Caldwell, head of the dispensary, St. Bernard's Hotel Dieu Hospital.——Dr. Daniel N. Eisendrath has been made professor of surgery in the College of Physicians and Surgeons.——Dr. Silas T. Richman was elected supreme physician of the United Order of Foresters, at the annual convention in St. Paul, July 21.

INDIANA.

Personal.—Dr. William A. Holloway, Logansport, is reported to be seriously ill.——Dr. Frederick W. Terflinger, formerly assistant medical superintendent of the Northern Indiana Hospital for the Insane, Longview, Logansport, has been appointed medical superintendent, vice Dr. Joseph C. Rogers, deceased.——President Winthrop E. Stone of Purdue University was recently presented a gold watch by the Indianapolis physicians affiliated with the Purdue Medical School.——Dr. Oran E. Druley, Anderson, lost an eye in a fireworks accident July 4.——Dr. William O. Gross, Fort Wayne, has been elected professor of toxicology in the Indiana University School of Medicine, Bloomington.

June Disease and Death.—The June death rate for the state was 10.7 per 1,000. The most prevalent malady was rheumatism, followed by diarrhea, tonsillitis, bronchitis, typhoid fever, cholera morbus, whooping cough, measles, cholera infantum, inflammation of the bowels, dysentery, intermittent and remittent fever, diphtheria, scarlet fever, smallpox, erysipelas, influenza, pneumonia, pleuritis, chickenpox, puerperal fever, typho-malarial fever and cerebrospinal meningitis. There were 97 cases of smallpox reported from 21 counties, with 3 deaths. Tuberculosis caused 344 deaths; typhoid fever, 27; pneumonia, 96; influenza, diphtheria and measles, each 8; scarlet fever, 5; whooping cough, 25: diarrheal diseases, 102; cerebrospinal meningitis, 9; puerperal fever, 13; cancer, 131, and violence, 194.

KENTUCKY.

Louisville.

City Hospital.—At the August 5 meeting of the general council an ordinance will be favorably reported to provide for an election to decide whether or not there shall be a bond issue of $1,000,000 for the equipment and furnishing of a new city hospital. The ordinance provides for 40-year bonds at the rate of 4 per cent, setting aside $52.876 annually to cover interest on the bonds and the sinking fund. An increase of 3 cents on the tax levy will be necessary to take care of these bonds. The hospital committee appointed by the mayor, composed of 12 physicians, has decided to recommend a hospital on the pavilion plan, built of reinforced concrete, one, two and three stories high. The provisional plan calls for two general wings, of six wards each, opening off a common hallway. There is to be a group of three buildings connected with the main building, to be used as a nurses' home, a free dispensary and a laboratory building. The present administration has declared itself unqualifiedly in favor of building the hospital, and it is believed that the bond issue will carry.

LOUISIANA.

Medical Bill Passed.—The Labbe medical bill, amended so as to exclude osteopaths from its provisions and to permit plantation midwives to carry on their vocation, was passed by the house July 2 without a dissenting vote.

Personal.—Dr. Rudolph Matas, New Orleans, is confined to his bed with a serious infection of the right eye, the source of which can not be definitely accounted for.——Dr. J. H. Pankey has been elected president, and Dr. Benjamin H. Talbot, a member of the Dodson board of health.——Dr. Beverly W. Smith and Sterling J. Gates have been appointed members of the Franklin board of health.

MASSACHUSETTS.

Boston.

New Tuberculosis Camp for Children.—The Boston Association for the Relief and Control of Tuberculosis which established the first institution for day care of consumptives, is about to establish a camp school on the grounds of the Bingham Hospital on Parker Hill avenue. A new temporary building will be erected with kitchen, store room, lavatories, shower baths, and dressing rooms. There will also be a separate small building for the doctor's office and dining-room and rest tents, hammocks and easy chairs. Vegetable and flower gardens will be laid out and the children will be taught how to care for them and will be given the products of their own gardens to carry to their homes.

MISSOURI.

High Versus Low Buildings for Hospitals.—A committee of the St. Louis Medical Society of Missouri, appointed to consider the plans for a new city hospital, advocated the building of three four-story buildings facing Lafayette avenue, instead of an eleven-story building as proposed by the health commissioner, Dr. H. Wheeler Bond.

Licenses Revoked.—The license of Dr. C. W. Jones, Columbia, is said to have been revoked on account of issuance of prescriptions for liquor for other than medical purposes. Dr. Jones is said to have sold liquor to negroes in large quantities, the prescriptions being issued from his sanatorium in Columbia.—The license of Dr. E. C. Duncan, Salem, is said to have been revoked by the State Board of Health on the charge of illegally prescribing liquor.

St. Louis.

Municipal Tuberculosis Commission.—An important step has been taken in the campaign against tuberculosis in St. Louis by the appointment of the Municipal Commission of Tuberculosis, of which Dr. William Porter is chairman. The commission is composed of nine citizens, whose duty it is to investigate the prevalence of tuberculosis and report findings and report recommendations for the limitation of the disease. The secretary is the only salaried officer. The probability is that the commission will be made permanent.

NEW JERSEY.

Personal.—Dr. H. E. Ricketts, Brooklyn, N. Y., has been appointed superintendent of the new Essex County Isolation Hospital, Newark, and Dr. Arthur D. Draper, Waltham, Mass., assistant superintendent.——Dr. Lewis H. Miller, Woodstown, fell down stairs, June 14, seriously injuring his leg.——Dr. J. E. Rayne and family, Atlantic City, sailed for the West Indies June 30.——Dr. James L. Perkins, Cranford, has been made health officer of the Garwood Board of Health——Drs. Charles M. Gray, George Cunningham and Sarah Jackson are the medical members of the executive committee of the Vineland Antituberculosis Society.——Dr. John T. Connolly, city physician of Bayonne, sustained a fracture of the leg in an automobile accident recently.——Dr. Isaac Surnamer, Paterson, in a fight with a burglar, June 1, was knocked down with a chair by the thief, who was afterward captured.——Dr. Carl A. Gesswein, Plainfield, while trying to prevent a collision between his automobile and a bicycle, ran his machine into a tree and fractured his nose.

NEW YORK.

Personal.—Dr. William C. Porter, Albany, has been appointed physician, sixth grade, at the Hudson River State Hospital, Poughkeepsie.——Dr. Edward N. K. Meers, Albany, has returned from London.——Dr. John Dugan has succeeded Dr. Frank G. Sherwood as health commissioner of Albion.

Appointments of Regents.—The State Board of Regents has selected Dr. Frank Rawlins to succeed Dr. Edward J. Goodwin as second commissioner deputy of education; Drs. Frank W. Adriance, Elmira, and Floyd S. Farnsworth, Plattsburg, have been reappointed members of the board of medical examiners, and Dr. Alfred H. Williams, Rochester, has been appointed a member of the board.

Changes in Medical Faculty.—The following changes have been made in the faculty of the College of Medicine, Syracuse University: Frank P. Knowlton, A.M., M.D., professor of physiology; Halbert S. Steensland, B.S., M.D., professor of pathology and bacteriology; H. D. Senior, M.B., F.R.C.S., professor of anatomy; Ernest N. Pattee, M.S., professor of chemistry; Richard H. Hutchings, M.D., Ogdensburg, lecturer on psychiatry; Ralph R. Fitch, M.D., Rochester, lecturer on orthopedics, and Charles V. Morill, A.M., New York City, lecturer on histology and embryology.

Tuberculosis Tag Day.—As the outcome of an effort to raise funds by a "tag" day in Schenectady, $2,500 has been secured with which a day camp for tuberculous has been established, similar to that secured in Albany by the Central Federation of Labor. The day camp is not to be recommended as a permanent substitute for the sanatorium, but still it is a valuable compromise. Here the patients get plenty of fresh air and sunlight, and a suitable and sufficient diet of milk and eggs, but the main value lies in the instructions given as to the means of cure and prevention, whereby the patient may become a help to himself and cease to be a menace to others. By a similar effort Geneva has raised a fund whereby a visiting nurse may be sent to the homes of patients, to see that they are properly fed and cared for, and the patients and their families shown the means of cure and prevention of disease.

New York City.

Personal.—Dr. George G. Rambaud, president of the New York Pasteur Institute, has returned from Paris.——Dr. De Santos Saxe has been appointed instructor in genitourinary diseases in the New York Postgraduate Medical School and Hospital as the result of a competition in which each candidate presented an original thesis.

Fight Against Noise Begins in Earnest.—Commissioner Bingham issued an order July 18 for the suppression of unnecessary noises. A special effort will be made to stop the noise of street hawkers and of automobile horns in certain sections where they are most annoying. The heads of nearly all the hospitals and institutions of the city have expressed themselves as highly gratified by this step.

Much Scarlet Fever.—The Willard Parker Hospital notes a marked increase in scarlet fever. It has been shown that during April of last year there were 708 cases of scarlet fever in the hospital; whereas this last April there were 1,255 cases. Health Commissioner Darlington thinks that the board of estimate should appropriate sufficient money to provide proper care for those suffering from contagious diseases.

Attribute Large Mortality to Flies.—Although Dr. Daniel D. Jackson has made no such thorough investigation this year, as he did last year for the Merchants' Association, he declares with other observers that there are an unusual number of house flies this year and that the protracted hot weather has favored their increase and dissemination. He prophesies that this will lead to an increased number of cases of typhoid fever within the next few weeks.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended July 18, 481 cases of tuberculosis, with 173 deaths; 203 cases of diphtheria, with 22 deaths; 312 cases of measles, with 13 deaths; 156 cases of scarlet fever, with 14 deaths; 50 cases of typhoid fever, with 8 deaths; 25 cases of whooping cough, with 6 deaths; 7 cases of cerebrospinal meningitis, with 7 deaths; and 35 cases of varicella, a total of 1,269 cases and 243 deaths.

Must Allow Member to Resign.—Dr. Charles J. Mooney has succeeded in resigning from the New York County Medical Society, that is to say, he has obtained a peremptory writ of mandamus decreeing that the county medical society accept his resignation handed in in December last. This, it is believed, is the final chapter in the suit against Champe Andrews, formerly counsel for the society, and Dr. Mooney, which has been in progress for more than a year.

To Reduce Infant Mortality in Brooklyn.—An elaborate campaign is to be put in full operation in Brooklyn against the high infant death rate in Brooklyn. The mother of every new baby born in the tenement-house districts of Brooklyn will be visited repeatedly by one of the 25 nurses of the department of health, supplemented by personal visits from one of the matrons of the Brooklyn Children's Aid Society, 16 modified milk distributing centers and by the society's physicians The instruction to be supplied is intended as a preventative of disease Where change of air and scene is required the children will be sent at once to the Sea Side Home at Coney Island or to the Harriman Home

A Bad Year for Babies—The New York Conference on the Summer Care of Babies states that there has been an unusual increase in the number of deaths among children from diarrheal diseases this year From June 1 to July 18 there were 1 132 deaths while during the same period last year there were only 772 For the week ended July 18 there were 369 deaths of infants under one year of age There were proportionately more deaths in Brooklyn than in Manhattan and it was claimed that this is not due to sanitary conditions but it is supposed that physicians erroneously accredit deaths to other causes than diarrheal There was also a remarkable increase in the number of deaths from tuberculosis During the week there were 27 deaths from sunstroke

NORTH CAROLINA.

Antirabic Treatment—The State Board of Health officially announces the perfection of arrangements by the State Laboratory of Hygiene in Raleigh for the administration of antirabic treatment Dr Charles A Shore state biologist is in control of this new department which is fully equipped for its work Persons who are able will be expected to pay expense of treatment but indigent patients will be cared for by the state without expense

Reunion—The alumni of the Jefferson Medical College, Philadelphia, who were in attendance on the state medical society met June 16 and organized the Jefferson Medical College Alumni Association of North Carolina and elected the following officers Dr Jacob F Highsmith Fayetteville, president Drs Eugene B Glenn Asheville and William O Spencer Winston Salem vice presidents, and Dr William P Holt Duke, secretary and treasurer

OHIO

Smallpox—In Shantytown, an addition to Troy 16 concealed cases of smallpox have been discovered, and about 40 individuals are under quarantine

License Revoked—Despite the determined protest of Dr J A Ambrose Dayton recently pardoned after serving a term in the penitentiary for criminal malpractice the State Board of Medical Registration and Examination revoked his certificate July 7

Ill and Injured—Dr George W Crile and Frank E Bunts Cleveland, narrowly escaped death July 18 when the horses which they were riding stepped on ground charged with electricity and were killed——Dr James W Hughey Washington Court House underwent a surgical operation at Johns Hopkins Hospital Baltimore June 22——Dr Willard C Rank Newark who has been seriously ill with septicemia, is reported to be improving

Oppose Advertising Practitioners—To the Muskingum County Medical Society at its July meeting, was submitted a communication calling attention to the fact that the names of several members of the society have appeared in the lay press, notwithstanding rules forbidding any such publication The secretary of the society was instructed to furnish all newspapers in the county the names of the members of the society with the request that they be not published excepting with the special consent of the practitioners or as a paid advertisement

Faculty Changes—With the reorganization of the faculty of Starling Ohio Medical College Columbus, Drs Clovis M Taylor and Louis M Early have resigned Dr Ernest Scott has been placed in charge of the pathologic department Dr Yeatman Wardlow has been made professor of clinical gynecology Dr Sherman Leach professor of operative surgery Dr John H J Upham professor of medicine Dr Elmer G Horton, professor of hygiene and sanitary science, Dr John D Dunham professor of diseases of the stomach and dietetics Dr J Baldwin McComb assistant professor of dermatology, Dr Edwin A Hamilton, professor of rectal diseases Dr Edward C Buck instructor in anatomy H R Prubacher lecturer in pharmacology and dean of the college of pharmacology, Dr Charles J Shepard lecturer on dermatology, Dr Verne A Dodd, lecturer on minor and operative surgery Dr Jacob J Coons, lecturer on laboratory diagnosis and Dr Andrew Rodgers, lecturer on obstetrics

Personal—Dr. Oscar R Mickelthwait, Portsmouth, has been appointed surgeon of the B & O S W Ry for the Hemden district——Dr Warren G. Murray, Dayton, recently returned after nine months in Europe——Dr Paul W Tappan, assistant physician of the Dayton State Hospital has resigned——Dr Mabel Richards, Lexington, has been appointed interne at Mt Carmel Hospital——Dr P A Jacobs Cleveland, is in London studying serum diagnosis and vaccine therapy——Dr Isabel Bradley on leaving Columbus State Hospital, was given a reception and presented with a handsome desk set——Dr Gordon F McKim has been elected genitourinary surgeon of the staff of Springfield Hospital, vice Dr Henry Baldwin Jr, who becomes a member of the consulting staff——Dr Arthur G Helmick has been appointed chief physician of the state penitentiary vice Dr John M Thomas, resigned and Dr Dana W Collison has been appointed night physician——Dr T L Baxter assistant physician at the Athens' State Hospital has resigned——Dr Walter W Wetmore has been elected health officer of Conneaut, vice Dr Otto N Warner

Cincinnati.

Personal—Dr Corliss Keller has been appointed first assistant at Longview Asylum, vice Dr Willard Kendig resigned——Dr McLeish has been appointed assistant physician at the Athens State Hospital——Dr Mary Isham has been appointed a member of the staff of the Columbus State Hospital——Dr William S Keller has moved to St Paul Minn, to take up the practice of the late Dr Jacob Schadle

Pasteur Institute to be Established—Drs Asa B Isham and Louis Schwab, medical directors of the City Hospital have decided to open a Pasteur institute in connection with the hospital laboratory, to be in charge of Dr Alfred Cole It is the intention of the management to treat residents of Cincinnati without expense, but a fee of $100 will be charged non residents, the amount to be turned over to the hospital fund

PENNSYLVANIA

Hospital Fire—A fire entailing a loss of probably $75 000, broke out in the accessory buildings of the State Hospital for the Insane at Norristown, July 10 The fire was prevented from reaching the buildings occupied by the inmates

Proposed New Milk Law.—As the result of a meeting of state officials held at West Chester July 16, a bill containing three important regulations on milk will be introduced at the next meeting of the legislature One will provide that all cream sold must contain at least 15 per cent butter fat The other two provide that no milk shall contain added water, and that no butter fat at all shall be removed from milk in other words, that milk must be sold to the consumers exactly as it comes from the cows

Philadelphia.

Another Public Bath—The contract for the construction of a public bath house was awarded July 18 to Edward H Iondler for $19,332 The new house is to be erected on the corner of Twelfth and Reed streets

Hospital Report.—The report of the Methodist Hospital for June shows that 93 patients were admitted 643 new patients visited the dispensaries and 2,609 administrations were made in the out patient department

Charitable Bequests—The will of the late Elizabeth Renz contains a provisional bequest of $8 500, which is to be divided equally between the German Hospital and the German Protestant Home——The will of the late Mary Burk bequeaths $2 000 to the Pennsylvania Home for Blind Women

Hospital Improvements—Work of reconstructing the Preston Retreat has been started and the improvements in the old structure will cost about $80 000 The present building was erected in 1837, and the proposed improvements will increase the capacity of the hospital from 30 to more than 50 beds Modern bath rooms will be installed and two water towers will be erected at either end of the structure to ensure safety from fire An elevator for patients will be constructed and a new heating and ventilating plant will be installed The money for these improvements is derived from unimproved land belonging to the Preston Retreat

Medical Alumni Officers Elected.—At the annual meeting of the alumni association of the University of Pennsylvania, Department of Medicine held June 16 the following officers were elected President Dr Charles K Mills vice presidents, Drs Wharton Sinkler Philadelphia Allen J Smith, Philadelphia H H Whitcomb Philadelphia Augustus S Thayer, Portland, Me, Theodore Diller, Pittsburg, Dewitt Sherman

Buffalo, and Alonzo E. Taylor, San Francisco; historian. Dr. Roland G. Curtin; secretary and treasurer, Dr. Edward A. Shumway; executive committee (three years), Drs. Samuel S. Stryker, William J. Taylor, B. Franklin Stahl, J. Allison Scott, William Campbell Posey, William Pepper, Archibald E. Olpp, James Tyson, DeForest Willard, George E. de Schweinitz, Charles W. Burr, George C. Stout, and J. Gurney Taylor.

GENERAL.

Reserve Medical Corps.—More than one hundred members of the Reserve Medical Corps of the Army have been commissioned and assigned to duty at various stations, for the most part at posts where they have hitherto been on duty as contract surgeons.

Change in Date of Meeting.—The tenth annual conference of the American Hospital Assocation will be held at the King Edward Hotel, Toronto, Ont., September 29 to October 2. The date has been changed from the week of September 22 on account of the impossibility of securing hotel accommodations at that time.

Selects Site for Hospital.—Surgeon General Rixey, U. S. Navy, has recently visited the new naval training station at Lake Bluff, Ill., to inspect the work under construction and select a site for the naval hospital in connection with the station, for which $250,000 was appropriated by the last congress. The surgeon general then went to New Fort Lyon to inspect the naval hospital for consumptives, which now has 120 patients.

Yellow Fever in Cuba.—Under date of July 13 the yellow-fever experts detailed by the superior board of health to investigate sanitary conditions in Daiquiri, Santiago province, states that yellow fever has been present in this district since April last. He had made positive diagnosis in 4 cases, and obtained notes on 10 other patients who had recovered. Since July 8, 4 cases have been reported, leaving 7 under treatment at the close of the week. The town has been quarantined and a detention camp has been opened near Santiago.——Two new cases of yellow fever were reported at Daiquiri, July 18.

Gibbs Memorial Prize.—The New York Academy of Medicine announces that the sum of $1,000 will be awarded to the best essay in competition on "The Etiology, Pathology and Treatment of the Diseases of the Kidney." Essays must be presented on or before Oct. 1, 1909. New discovery or fruitful research will be considered the standard of merit, and essays must show originality in order to obtain the prize. The competition is open to regular practitioners in the United States. Essays should be transmitted to the committee of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize, 17-21 West Forty-third Street, New York.

Death Rate in Panama and Canal Zone.—Assistant Sanitary Officer Mitchell of the Canal Zone reports that in May, 1907, the annual death rate per 1,000 for white employés was 18.34; in May, 1908, the coresponding rate was 14.59. The death rates for colored employés in May, 1907, was 34.48 per 1,000, while in May, 1908, it was 8.82 per 1,000. The death rate for all employés in May, 1907, was 30.15 per 1,000, while in May, 1908, the rate was 10.44 per 1,000. The reduction as compared with last year is said to be due to the decrease of the number of deaths due to typhoid fever and pneumonia. All the deaths from these two diseases in May this year were among black employés.

Medical Society Meetings.—The thirty-fifth annual meeting of the Northern Tri-State Medical Association was held in South Bend, Ind., July 14, under the presidency of Dr. A. E. Bulson, Fort Wayne. Dr. William A. Dickey, Toledo, Ohio, was elected president. The next meeting will be held in Ann Arbor, Mich.——At the annual meeting and banquet of the Phi Delta Medical Fraternity, held in Brooklyn, July 1, 2 and 3, Dr. John N. Balderson, Brooklyn, was elected grand president: Dr. Edwin Hannock, Albany, N. Y., grand vice-president; Dr. William E. Lippold, Brooklyn, grand secretary-treasurer; Dr. Charles Marshall, Chicago, grand chaplain; Dr. J. S. Modesitt, grand marshal, and Dr. Forrest Reese, Chicago, grand historian.

Railway Surgeons Meet.—The surgeons of the New Orleans and Northeastern, Alabama and Vicksburg, and Shreveport and Pacific railroads organized the Tri-Railway Surgeons' Association at New Orleans, June 11, with the following officers: President, Dr. Charles W. Bufkin, Hattiesburg, Miss.; vice-presidents, Drs. James J. Haralson, Forest, Miss., and Henry F. Wilkins, Rayville, La.; secretary, Dr. Joseph D. Martin, New Orleans, and treasurer, Dr. R. W. Thompson, Lumberton, Miss.——The seventh annual meeting of the Frisco System Medical Association was held in Kansas City May 25 and 26. The following officers were elected: Dr. Samuel C. James, Kansas City, Mo., president; Drs. Joseph W. Ballenger, Carbon Hill, Ala.; James A. Foltz, Fort Smith, Ark.; Henry Z. Hissem, Ellsworth, Kan.; J. H. McMill, Mississippi; Harold H. Lucas, Chaffee, Mo.; Edward A. Mayberry, Enid, Okla.; Frank D. Smythe, Memphis, Tenn., and Wiley E. Sturgis, Stephensville, Texas, vice-presidents; Dr. A. D. Parce, St. Louis, secretary, and Dr. Walter A. Camp, Springfield, Mo., treasurer (re-elected).

Destruction of Mosquitoes in Cuba.—Major Kean of the medical corps of the U. S. Army, chief sanitary officer of Cuba, in a report to Governor Magoon, dated June 15, calls attention to the excellent work that is being done in the destruction of mosquitoes on that island. This especially applies to the zone about Cienfuegos and extending up the railroad as far as Santa Clara, which was severely infected last summer and fall. Inspections in Cienfuegos about the 1st of April showed a deposit of larvæ, on an average, in every ten houses inspected, whereas the inspection reports for the last three weeks show a breeding place of larvæ in every 51 houses, in every 64 and every 71 houses, respectively. The town of Palmira, where yellow fever occurred as late as January of this year, has been so thoroughly cleaned that in a recent inspection not a single deposit of larvæ was found in 112 houses examined. Similar good results have been achieved in Rodas and Santa Clara. In the Guines-Union zone in the southwestern part of Matanzas province, and the southwestern part of Havana province, which has been one of the most troublesome and persistent zones of infection in the island, this locality being responsible for the recurrence of yellow fever last spring; excellent work has been accomplished under the direction of Dr. Rodriguez Alonzo as special commissioner. In both of these zones it is believed that the stegomyiæ have been reduced below the yellow-fever limit. Sanitary officers are doing mosquito work with their sanitary brigades in all the municipalities of the island, but these zones are those in which, on account of the extended infection last summer, special mosquito work under a special commissioner has been deemed necessary. In Havana there are still harmless mosquitoes, but within the city limits mosquito breeding is practically at an end, as a breeding place is found in only about one house in 450 inspected, and of these considerably less than one-half are found to be stegomyiæ. The work in Santiago has been less satisfactory on account of the opposition of the people and the necessity of storing water in barrels because of the uncertain water supply. On this account and because of the persistence of the yellow-fever foci there, Captain H. D. Thomason, medical corps, U. S. A., was sent in January as special commissioner, and since April 1 has been assigned to station there. The work has lately shown steady improvement, and it is hoped in another month will be brought up to a satisfactory standard. Improvement is necessarily slow because it requires education, not only of those engaged in the work, but of the entire population.

Civil-Service Examination.—The United States Civil-Service Commission announces an examination to be held August 26, to select eligibles from which to fill vacancies in the position of clinical director in the Government Hospital for the Insane, Washington, at a salary of $2,000 per annum, with maintenance in the hospital; and vacancies requiring same qualifications as they may occur in any branch of the service. Applicants must be graduates of regularly incorporated medical colleges and must have had ten years' experience in institutions for the care and treatment of the insane, and must have received special training in clinical and research work, in pathology and psychopathology; must have made contributions to medical literature of insanity and must have knowledge of some foreign language, preferably German. He will have general supervision of the medical work at the hospital, supervision and care of the hydrotherapeutic departments, operating room and the training school for nurses: all transfers of patients will be made through him and he will be in charge of the clinical records and see that they are uniformly maintained, and be in position to offer suggestions that recent medical literature may contain among the lines of clinical psychiatry. Applicants must not be over 35 years of age at the time of the examination. Application should be made to the United States Civil-Service Commission, Washington, D. C., for form 304 and special form. No application will be accepted unless properly executed and filed on or before August 26.——The United States Civil-Service Commission announces an examination for assistant surgeon for Freedman's Hospital, Washington, D. C., at $1,500 per annum, at various places throughout the

United States. Applicants must be 20 years old or over at the time of the examination. The examination is open to all citizens of the United States, but it is understood to be the practice to appoint only colored persons to positions in the hospital. Application should be made to the United States Civil-Service Commission, Washington, D. C., for application form 1312.——Competitive examinations will soon be held under the rules of the United States Civil-Service Commission for pharmacist in the Public Health and Marine-Hospital Service, physician in Indian service, physician in the Isthmian Canal service, acting assistant surgeon in the Public Health and Marine-Hospital Service, and surgeon in the Coast and Geodetic Survey. Application forms and information in regard to this examination may be obtained by addressing the United States Civil-Service Commission, Washington, D. C., or the boards of examiners in Boston, Philadelphia, Atlanta, Ga., Cincinnati, Chicago, St. Paul, San Francisco, New York, New Orleans or St. Louis.

CANADA.

A Course in Hygiene at the University of Toronto.—The University of Toronto, during the next six weeks, will conduct a course in hygiene of twenty lectures. Dean Reeve of the medical faculty will take up the eye and ear; Dr. George R. McDonagh, the nose and throat; Dr. Charles Sheard, contagious and infectious diseases; Dr. Abbott, color blindness; Dr. William Oldright, general sanitation.

Canada's Nostrum Bill.—The Templeman bill respecting proprietary and "patent medicines" has passed the Canadian House of Commons. In these preparations the use of cocain has been prohibited, as well as the excessive use of alcohol. When a manufacturer prints the formula on each package the medicine will not come under the act, while if certain potent drugs are used the names must be printed on the label.

Annual Meeting of Ontario Medical Council.—The annual meeting of the Ontario Medical Council was held in Toronto during the week ended July 11. For some time a certain section of the public press has been calling on the medical council to do its duty with regard to certain members of the medical profession throughout the province who were suspected of operations for criminal abortion; and the fact that recently there had been several cases before the courts of the province brought this meeting of the council prominently in the public eye. The result is that the council has appointed a prosecution committee to investigate the cases of these practitioners. There will also be instituted an inquiry into the recent examinations, particularly the intermediate examination, in which examination over 65 per cent. of the candidates were "plowed" (rejected). An interesting item on the week's program was the presentation to a former member of the Council and a past president, Dr. C. T. Campbell, London, Ontario, of an illuminated address. Dr. Campbell was connected with the Council for twenty-five years and resigned a year ago to accept a position as postoffice inspector under the federal government. He also retired from active practice at the same time. There are now on the register of the Ontario College of Physicians and Surgeons 3,807 members in good standing. The following officers were elected: President, Dr. S. H. Glasgow, Welland; vice-president, Dr. E. A. P. Hardy, Toronto; registrar, Dr. John L. Bray, Toronto; treasurer, Dr. H. Wilberforce Aikins, Toronto.

FOREIGN.

Novarro Prize.—The assistants of Professor Novarro of Genoa have decided to endow a prize to be called by his name and awarded perpetually for works marking progress in general pathology. Novarro's election to the senate was the occasion of the movement.

The Absinthe Bill in France and Switzerland.—A bill prohibiting the manufacture and sale of absinthe recently came before the French senate, signed by 115 members, and it was referred to a committee of 18 members. The Swiss national vote of July 5 gave a majority of 100,000 in favor of the total prohibition of the manufacture, sale and storage of absinthe throughout the country.

Centennial of the Erlangen Medical Society.—At the festivities in commemoration of the centennial of the Physikalische-Medizinische Societät of Erlangen, Germany, the university conferred honorary degrees on Becquerel, Nernst, Horsley, Leube, Curtius and Kries, while 23 were appointed honorary members of the society, including J. J. Minot of Boston, Erb, Bier, Rutherford of Manchester, formerly of Canada, and Sherrington of Liverpool.

Venereal Disease Among the Young.—The *Allg. med. Ct.-Ztg.*, July 4, states that 8 per cent. of the 1,800 pupils of the gymnasia and technical high schools of Bohemia examined were found to have venereal disease, and that the percentage was still higher in the schools in the small towns. These figures are published in the *Zeitschrift zur Bekämpfung der Geschlechtskrankheiten*, the official organ of the National Preventive Association, to confirm anew the necessity for instruction of the young in respect to the venereal peril.

Plague in Venezuela.—According to the government Public Health Reports, plague still continues in Caracas. The government ordered 1,000 tubes of Haffkine's lymph and 2,000 tubes of Yersin serum. Aside from this and the disinfection and temporary closing of the infected houses, no measures have been taken to prevent the spread of the disease. Ordinary vehicles are used to carry the infected to the hospital and immediately afterward employed in the transportation of merchandise from one part of the city to another, the hospital itself being situated in the midst of a congested district within a few hundred yards of the stations of the Caracas and La Guayra and Puerto Cabello railroads. It is impossible to obtain authentic information from the interior.

First International First-Aid and Life-Saving Congress.—The advantages of international discussion were brought out most decidedly at this congress, which convened at Frankfurt a. M., June 13. It was decided to make these congresses a permanent institution, to meet every five years in one of the countries represented, with a standing international committee on life-saving measures. The next congress will be held in Vienna in 1913. Among the ten sections for first-aid and life-saving in drownings and accidents on railroads, in the city, country, etc., was one devoted to accidents in sports, and a communication was read by a German army surgeon on airship accidents and their prevention. Hüppe's on education of the public in prophylaxis of infectious diseases was summarized in The Journal, July 25, page 356, and Meyer's address on resuscitation of the drowned, for which he advocates a combination of the Silvester and Brosch methods. Marcus of Frankfurt a. M., related encouraging experiences in training children of the upper grades of school in first-aid work.

Robert Koch at the Antipodes.—Koch spent some time studying conditions at the leper colony during his stay at the Hawaiian Islands, where he was cordially welcomed by the profession. He reached Japan early in June, and was tendered a great reception by the scientific societies of Japan on the 17th at Tokyo, with a gala entertainment at the theater in the evening. The address at the reception by the surgeon-general of the army gave concrete examples of ways in which the public health of Japan had profited by Koch's direct suggestions, besides his indirect influence. He was greeted as "the inspirer of the students who are now the leaders of science in Japan." Everywhere the monogram "R. K." was seen with the flags of Japan and Germany and a profusion of flowers. Each guest was presented with a large envelope containing a booklet with portrait, describing Koch's work, a small box with a silver pin with his portrait in a red chrysanthemum, also two souvenir post cards, one showing the Institute for Infectious Diseases at Berlin, with maps presenting Koch's world-wide activity, the other with his portrait surrounded by bacilli, cocci, trypanosomes, etc. Koch described his work on sleeping sickness, emphasizing in conclusion the importance of taking Nature's workshop as one's laboratory, and the comparative fruitlessness of confining one's research within four walls. At both meetings it was proposed that Japan, to commemorate Koch's visit, should found a society for the combating of tuberculosis, and steps were taken to raise a subscription for Japan for the "Robert Koch Fund." This fund is growing apace, as has been mentioned in these columns, scientific societies, towns, cities, communities and individuals contributing to this international endowment for investigation and experiments on a large scale to combat tuberculosis. Carnegie's contribution is the largest single one yet received; the fund at last reports was over a quarter of a million of dollars.

LONDON LETTER.

(From Our Regular Correspondent.)

London, July 18, 1908.

A Year's Work of the Metropolitan Asylums Board.

The tenth annual report of the Metropolitan asylums board, which controls all the hospitals of the metropolis, has just been issued. The district served is 121 square miles and contains a population of 4,758,218. The board controls 51 institutions—16 hospitals for infectious diseases, 5 asylums for imbeciles, a land ambulance service of 8 stations, 167 ambulances and other vehicles, a river ambulance service with 3 wharves and 5 steamboats, a training ship with infirmary on shore, and a shipping home, a school for children with ringworm, 2 schools for children with ophthalmia, 3 seaside homes for children, 6 homes for defective children, 3 homes for children remanded by magistrates, and a diphtheria antitoxin and bacteriologic establishment. The year 1907 will be memorable in the history of the board for the abnormal amount of infectious disease, particularly scarlet fever, which prevailed throughout the whole year. The total number of fever patients admitted into the hospitals of the board was no fewer than 32,169, or 6,165 in excess of the number of any previous year. The mortality of scarlet fever patients was but 2.8 per cent., having been as low only once previously. It is regretted that the number of cases of mistaken diagnosis is on the increase; no fewer than 3,111 such cases were admitted, as against 2,151 in the previous year. One of the most interesting tables in the report is that showing the probable causes of insanity in the patients admitted during the year. Nearly all the causes are physical—the two chief are congenital defects and old age. The former is given as the predisposing cause in 199 cases and as either predisposing or exciting in 115. Old age was responsible in 293 patients; intemperance was the cause in the cases of 7 men and 6 women; heredity in 29, and accident or injury in 3. Only 6 cases were due to moral causes.

A New Commission on Sleeping Sickness.

A new commission for the study of sleeping sickness is being organized to proceed to East Africa. It will continue the work carried on by the previous commission from 1902 until it was temporarily suspended in 1905 owing to the death of Lieutenant Tulloch, who contracted the disease during his researches in Uganda. Some time ago the secretary for the colonies, Lord Elgin, wrote to the Royal Society, asking if it would not be possible to continue scientific research on the spot, and it was decided to dispatch a new commission. This will be in charge of Col. David Bruce, F.R.S., whose researches on tropical medicine are so famous, and who will go to Africa for a second time in connection with this work. He will be accompanied by Captain Hamilton and Captain Bateman of the Army Medical Corps. The mission will proceed to Lake Victoria, on the northern shores of which the Uganda protectorate is preparing a laboratory within five or six miles of one of the concentration camps for the disease. The research will include the study of the natural history of the *Glossina morsitans* and of Koch's theory that crocodiles provide foodstuff for it. The commission will also investigate the question whether the lower animals harbor the parasites and the exact method by which the fly transfers the parasite. The latest returns show that there have been altogether 12 Europeans under treatment for sleeping sickness in England. Of these 4 died after suffering from the disease for periods ranging from twenty months to four years. Of the remainder, one, who was attacked seven years ago, is now well, while 5 others are officially described as "apparently well," the disease in these cases having lasted from fifteen months to three years. In a further case which has been under observation for six months the patient is said to have improved.

The Early Diagnosis of Cancer of the Uterus.

In order that sufferers from cancer of the uterus may receive the benefit of early treatment Dr. F. H. Champneys, at the request of the central midwives board, has drawn up a circular letter for the information of midwives. Stress is laid on the fact that no time should be lost. It is also pointed out that the menopause should not be accompanied by floodings or irregular hemorrhages of any kind. It is thus hoped that women generally will be educated as to the importance of seeking advice early, and the percentage of operable cases of cancer of the uterus increased. This result has been achieved by a similar campaign in Germany inaugurated by Professor Winter.

A Victim of the X-Rays.

The sad case of Dr. Hall Edwards, the pioneer worker in this country with the *x*-rays in their application to medicine, has been previously reported in THE JOURNAL. Some months ago his left arm was amputated for cancer following intractable ulceration of the hand. Now his right hand with the exception of the thumb has been removed. His sufferings have not quenched his enthusiasm for his work and he worked hard on the day preceding the operation. The operation was satisfactorily performed, but he is very weak, as his strength has been sapped and he has been able to obtain sleep only by the aid of narcotics. He has been granted by the government a "civil list" pension of $600 a year "in recognition of his devotion to radiography in its application to medical and surgical science." The medical profession and some others have also subscribed a fund for his benefit.

Food Preservatives.

Dr. Macfadden, who has had charge of a government inquiry on the subject of food preservatives, has presented an important report. He finds that foods packed in tin or in glass and hermetically sealed often contain food preservatives in considerable quantity. Inasmuch as fresh meat when cooked in suitable vessels requires no other protection against decomposition than being hermetically sealed, the inference is that the manufacturers who use preservatives do so either because the meat which they use is not fresh before it becomes the subject of their operations or because these are unduly protracted or are conducted under unsuitable conditions. Dr. Macfadden finds that the use of so-called preservatives is much promoted by the representations made to the manufacturers of canned meat by travelers for boron and other compounds. These sell antiseptics under names which throw no light on their composition. Sulphurous acids and certain sulphites have a considerable power of restoring the appearance of meat which is no longer fresh, and various boron preparations retard the appearance of the usual signs of decomposition. But such preparations do not prevent dangerous consequences to consumers. Fatal illness due to the *Bacillus enteritidis* has been produced by consumption of canned meat which showed no sign of decomposition. Dr. Macfadden is of the opinion that the use of chemical preservatives in foods enclosed in hermetically sealed cans should be absolutely prohibited.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, July 1, 1908.

Cancer Research and the Campaign Against Cancer.

A success equal to that which has been attained in the campaign against tuberculosis can not be recorded for the fight against a malady no less dreadful, cancer. In this, unfortunately, we are still at the beginning of our efforts, but happily in the past few years efforts to protect mankind against this horrible scourge have been undertaken to an increased extent. The organization of the campaign was undertaken in Germany by a man who has repeatedly shown himself an excellent organizer, namely, Ernst v. Leyden. Just as the foundation of the German committee for the campaign against tuberculosis and the institution of the popular sanatoria against tuberculosis are essentially to be referred to his initiative, so we have also to thank him for the attempt to obtain fuller data regarding the distribution and origin of cancer by securing the interest of all classes concerned and to learn the means and methods of fighting it. At von Leyden's instigation a committee on cancer research was established in Berlin in 1900, at the head of which he was placed, and it succeeded in arousing the interest of physicians, of the government, and of the laity in the matter. Under his initiative, which was seconded by the general secretary of the committee (Prof. G. Meyer, Berlin), similar organizations were formed also in the other German states, so that some time ago a German central committee for cancer research could be organized. Finally, as a further result of his efforts, a combination of the committees, which meanwhile had been founded in other civilized countries, was effected and an international association for the investigation of cancer was on May 23 of this year formed in Berlin. The association includes all the thirteen countries which for the most part were represented by delegates at the meeting here (the United States of America by G. H. A. Clowes of Buffalo); unfortunately, England has not yet joined this association. As in political and commercial fields so in the field of scientific investigation, apparently, petty jealousies are not entirely to be avoided, although the common aim of scientific investigation ought to prevent such discords.

The International Association for Cancer Research has, according to the sketch of the constitution, the following purposes: 1. The promotion of institutions for research, as well as for the care of cancer patients, and the campaign against cancer. 2. The collection of uniform international statistics regarding cancer. 3. The formation of an international intelligence bureau for all questions regarding cancer research. 4. The publication of an international journal for cancer research. 5. The preparation of international congresses on cancer. 6. The education of the public regarding the nature of cancer, in order that the laity may recognize it as early as possible.

Each country belonging to the association has the right to appoint ordinary members, the number of which is two for a population up to 10,000,000 and one for every additional million up to a maximum of five. To defray expenses each participating country must provide annually 100 marks ($24) for each ordinary member. E. v. Leyden was elected permanent honorary president; Czerny (Heidelberg), acting presi-

United States. Applicants must be 20 years old or over at the time of the examination. The examination is open to all citizens of the United States, but it is understood to be the practice to appoint only colored persons to positions in the hospital. Application should be made to the United States Civil-Service Commission, Washington, D. C., for application form 1312.——Competitive examinations will soon be held under the rules of the United States Civil-Service Commission for pharmacist in the Public Health and Marine-Hospital Service, physician in Indian service, physician in the Isthmian Canal service, acting assistant surgeon in the Public Health and Marine-Hospital Service, and surgeon in the Coast and Geodetic Survey. Application forms and information in regard to this examination may be obtained by addressing the United States Civil-Service Commission, Washington, D. C., or the boards of examiners in Boston, Philadelphia, Atlanta, Ga., Cincinnati, Chicago, St. Paul, San Francisco, New York, New Orleans or St. Louis.

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A Course in Hygiene at the University of Toronto.—The University of Toronto, during the next six weeks, will conduct a course in hygiene of twenty lectures. Dean Reeve of the medical faculty will take up the eye and ear; Dr. George R. McDonagh, the nose and throat; Dr. Charles Sheard, contagious and infectious diseases; Dr. Abbott, color blindness; Dr. William Oldright, general sanitation.

Canada's Nostrum Bill.—The Templeman bill respecting proprietary and "patent medicines" has passed the Canadian House of Commons. In these preparations the use of cocain has been prohibited, as well as the excessive use of alcohol. When a manufacturer prints the formula on each package the medicine will not come under the act, while if certain potent drugs are used the names must be printed on the label.

Annual Meeting of Ontario Medical Council.—The annual meeting of the Ontario Medical Council was held in Toronto during the week ended July 11. For some time a certain section of the public press has been calling on the medical council to do its duty with regard to certain members of the medical profession throughout the province who were suspected of operations for criminal abortion; and the fact that recently there had been several cases before the courts of the province brought this meeting of the council prominently in the public eye. The result is that the council has appointed a prosecution committee to investigate the cases of these practitioners. There will also be instituted an inquiry into the recent examinations, particularly the intermediate examination, in which examination over 65 per cent. of the candidates were "plowed" (rejected). An interesting item on the week's program was the presentation to a former member of the Council and a past president, Dr. C. T. Campbell, London, Ontario, of an illuminated address. Dr. Campbell was connected with the Council for twenty-five years and resigned a year ago to accept a position as postoffice inspector under the federal government. He also retired from active practice at the same time. There are now on the register of the Ontario College of Physicians and Surgeons 3,807 members in good standing. The following officers were elected: President, Dr. S. H. Glasgow, Welland; vice president, Dr. E. A. P. Hardy, Toronto; registrar, Dr. John L. Bray, Toronto; treasurer, Dr. H. Wilberforce Aikins, Toronto.

FOREIGN.

Novarro Prize.—The assistants of Professor Novarro of Genoa have decided to endow a prize to be called by his name and awarded perpetually for works marking progress in general pathology. Novarro's election to the senate was the occasion of the movement.

The Absinthe Bill in France and Switzerland.—A bill prohibiting the manufacture and sale of absinthe recently came before the French senate, signed by 115 members, and it was referred to a committee of 18 members. The Swiss national vote of July 5 gave a majority of 100,000 in favor of the total prohibition of the manufacture, sale and storage of absinthe throughout the country.

Centennial of the Erlangen Medical Society.—At the festivities in commemoration of the centennial of the Physikalische-Medizinische Societät of Erlangen, Germany, the university conferred honorary degrees on Becquerel, Nernst, Horsley, Leube, Curtius and Kries, while 23 were appointed honorary members of the society, including J. J. Minot of Boston, Erb, Bier, Rutherford of Manchester, formerly of Canada, and Sherrington of Liverpool.

Venereal Disease Among the Young.—The *Allg. med. Ct.-Ztg.*, July 4, states that 8 per cent. of the 1,800 pupils of the gymnasia and technical high schools of Bohemia examined were found to have venereal disease, and that the percentage was still higher in the schools in the small towns. These figures are published in the *Zeitschrift zur Bekämpfung der Geschlechtskrankheiten*, the official organ of the National Preventive Association, to confirm anew the necessity for instruction of the young in respect to the venereal peril.

Plague in Venezuela.—According to the government Public Health Reports, plague still continues in Caracas. The government ordered 1,000 tubes of Haffkine's lymph and 2,000 tubes of Yersin serum. Aside from this and the disinfection and temporary closing of the infected houses, no measures have been taken to prevent the spread of the disease. Ordinary vehicles are used to carry the infected to the hospital and immediately afterward employed in the transportation of merchandise from one part of the city to another, the hospital itself being situated in the midst of a congested district within a few hundred yards of the stations of the Caracas and La Guayra and Puerto Cabello railroads. It is impossible to obtain authentic information from the interior.

First International First-Aid and Life-Saving Congress.—The advantages of international discussion were brought out most decidedly at this congress, which convened at Frankfurt a. M., June 13. It was decided to make these congresses a permanent institution, to meet every five years in one of the countries represented, with a standing international committee on life-saving measures. The next congress will be held in Vienna in 1913. Among the ten sections for first-aid and life-saving in drownings and accidents on railroads, in the city, country, etc., was one devoted to accidents in sports, and a communication was read by a German army surgeon on airship accidents and their prevention. Hüppe's on education of the public in prophylaxis of infectious diseases was summarized in The Journal, July 25, page 356, and Meyer's address on resuscitation of the drowned, for which he advocates a combination of the Silvester and Brosch methods. Marcus of Frankfurt a. M., related encouraging experiences in training children of the upper grades of school in first-aid work.

Robert Koch at the Antipodes.—Koch spent some time studying conditions at the leper colony during his stay at the Hawaiian Islands, where he was cordially welcomed by the profession. He reached Japan early in June, and was tendered a great reception by the scientific societies of Japan on the 17th at Tokyo, with a gala entertainment at the theater in the evening. The address at the reception by the surgeon-general of the army gave concrete examples of ways in which the public health of Japan had profited by Koch's direct suggestions, besides his indirect influence. He was greeted as "the inspirer of the students who are now the leaders of science in Japan." Everywhere the monogram "R. K." was seen with the flags of Japan and Germany and a profusion of flowers. Each guest was presented with a large envelope containing a booklet with portrait, describing Koch's work, a small box with a silver pin with his portrait in a red chrysanthemum, also two souvenir post cards, one showing the Institute for Infectious Diseases at Berlin, with maps presenting Koch's world-wide activity, the other with his portrait surrounded by bacilli, cocci, trypanosomes, etc. Koch described his work on sleeping sickness, emphasizing in conclusion the importance of taking Nature's workshop as one's laboratory, and the comparative fruitlessness of confining one's research within four walls. At both meetings it was proposed that Japan, to commemorate Koch's visit, should found a society for the combating of tuberculosis, and steps were taken to raise a subscription for Japan for the "Robert Koch Fund." This fund is growing apace, as has been mentioned in these columns, scientific societies, towns, cities, communities and individuals contributing to this international endowment for investigation and experiments on a large scale to combat tuberculosis. Carnegie's contribution is the largest single one yet received; the fund at last reports was over a quarter of a million of dollars.

LONDON LETTER.

(From Our Regular Correspondent.)

London, July 18, 1908.

A Year's Work of the Metropolitan Asylums Board.

The tenth annual report of the Metropolitan asylums board, which controls all the hospitals of the metropolis, has just been issued. The district served is 121 square miles and contains a population of 4,758,218. The board controls 51 institutions—16 hospitals for infectious diseases, 5 asylums for imbeciles, a land ambulance service of 8 stations, 167 ambulances and other vehicles, a river ambulance service with 3 wharves and 5 steamboats, a training ship with infirmary on shore, and a shipping home, a school for children with ringworm, 2 schools for children with ophthalmia, 3 seaside homes for children, 6 homes for defective children, 3 homes for children remanded by magistrates, and a diphtheria antitoxin and bacteriologic establishment. The year 1907 will be memorable in the history of the board for the abnormal amount of infectious disease, particularly scarlet fever, which prevailed throughout the whole year. The total number of fever patients admitted into the hospitals of the board was no fewer than 32,169, or 6,165 in excess of the number of any previous year. The mortality of scarlet fever patients was but 2.8 per cent., having been as low only once previously. It is regretted that the number of cases of mistaken diagnosis is on the increase; no fewer than 3,111 such cases were admitted, as against 2,151 in the previous year. One of the most interesting tables in the r [illegible] 'he probable causes of insanity in the [illegible] the year. Nearly all the causes are [illegible] are congenital defects and old age. The former is given as the predisposing cause in 199 cases and as either predisposing or exciting in 115. Old age was responsible in 293 patients; intemperance was the cause in the cases of 7 men and 6 women; heredity in 29, and accident or injury in 3. Only 6 cases were due to moral causes.

A New Commission on Sleeping Sickness.

A new commission for the study of sleeping sickness is being organized to proceed to East Africa. It will continue the work carried on by the previous commission from 1902 until it was temporarily suspended in 1905 owing to the death of Lieutenant Tulloch, who contracted the disease during his researches in Uganda. Some time ago the secretary for the colonies, Lord Elgin, wrote to the Royal Society, asking if it would not be possible to continue scientific research on the spot, and it was decided to dispatch a new commission. This will be in charge of Col. David Bruce, F.R.S., whose researches on tropical medicine are so famous, and who will go to Africa for a second time in connection with this work. He will be accompanied by Captain Hamilton and Captain Bateman of the Army Medical Corps. The mission will proceed to Lake Victoria, on the northern shores of which the Uganda protectorate is preparing a laboratory within five or six miles of one of the concentration camps for the disease. The research will include the study of the natural history of the *Glossina morsitans* and of Koch's theory that crocodiles provide foodstuff for it. The commission will also investigate the question whether the lower animals harbor the parasites and the exact method by which the fly transfers the parasite. The latest returns show that there have been altogether 12 Europeans under treatment for sleeping sickness in England. Of these 4 died after suffering from the disease for periods ranging from twenty months to four years. Of the remainder, one, who was attacked seven years ago, is now well, while 5 others are officially described as "apparently well," the disease in these cases having lasted from fifteen months to three years. In a further case which has been under observation for six months the patient is said to have improved.

The Early Diagnosis of Cancer of the Uterus.

In order that sufferers from cancer of the uterus may receive the benefit of early treatment Dr. F. H. Champneys, at the request of the central midwives board, has drawn up a circular letter for the information of midwives. Stress is laid on the fact that no time should be lost. It is also pointed out that the menopause should not be accompanied by floodings or irregular hemorrhages of any kind. It is thus hoped that women generally will be educated as to the importance of seeking advice early, and the percentage of operable cases of cancer of the uterus increased. This result has been achieved by a similar campaign in Germany inaugurated by Professor Winter.

A Victim of the X-Rays.

The sad case of Dr. Hall Edwards, the pioneer worker in this country with the *x*-rays in their application to medicine, has been previously reported in THE JOURNAL. Some months ago his left arm was amputated for cancer following intractable ulceration of the hand. Now his right hand with the exception of the thumb has been removed. His sufferings have not quenched his enthusiasm for his work and he worked hard on the day preceding the operation. The operation was satisfactorily performed, but he is very weak, as his strength has been sapped and he has been able to obtain sleep only by the aid of narcotics. He has been granted by the government a "civil list" pension of $600 a year "in recognition of his devotion to radiography in its application to medical and surgical science." The medical profession and some others have also subscribed a fund for his benefit.

Food Preservatives.

Dr. Macfadden, who has had charge of a government inquiry on the subject of food preservatives, has presented an important report. He finds that foods packed in tin or in glass and hermetically sealed often contain food preservatives in considerable quantity. Inasmuch as fresh meat when cooked in suitable vessels requires no other protection against decomposition than being hermetically sealed, the inference is that the manufacturers who use preservatives do so either because the meat which they use is not fresh before it becomes the subject of their operations or because these are unduly protracted or are conducted under unsuitable conditions. Dr. Macfadden finds that the use of so-called preservatives is much promoted by the representations made to the manufacturers of canned meat by travelers for boron and other compounds. These sell antiseptics under names which throw no light on their composition. Sulphurous acids and certain sulphites have a considerable power of restoring the appearance of meat which is no longer fresh, and various boron preparations retard the appearance of the usual signs of decomposition. But such preparations do not prevent dangerous consequences to consumers. Fatal illness due to the *Bacillus enteritidis* has been produced by consumption of canned meat which showed no sign of decomposition. Dr. Macfadden is of the opinion that the use of chemical preservatives in foods enclosed in hermetically sealed cans should be absolutely prohibited.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, July 1, 1908.

Cancer Research and the Campaign Against Cancer.

A success equal to that which has been attained in the campaign against tuberculosis can not be recorded for the fight against a malady no less dreadful, cancer. In this, unfortunately, we are still at the beginning of our efforts, but happily in the past few years efforts to protect mankind against this horrible scourge have been undertaken to an increased extent. The organization of the campaign was undertaken in Germany by a man who has repeatedly shown himself an excellent organizer, namely, Ernst v. Leyden. Just as the foundation of the German committee for the campaign against tuberculosis and the institution of the popular sanatoria against tuberculosis are essentially to be referred to his initiative, so we have also to thank him for the attempt to obtain fuller data regarding the distribution and origin of cancer by securing the interest of all classes concerned and to learn the means and methods of fighting it. At von Leyden's instigation a committee on cancer research was established in Berlin in 1900, at the head of which he was placed, and it succeeded in arousing the interest of physicians, of the government, and of the laity in the matter. Under his initiative, which was seconded by the general secretary of the committee (Prof. G. Meyer, Berlin), similar organizations were formed also in the other German states, so that some time ago a German central committee for cancer research could be organized. Finally, as a further result of his efforts, a combination of the committees, which meanwhile had been founded in other civilized countries, was effected and an international association for the investigation of cancer was on May 23 of this year formed in Berlin. The association includes all the thirteen countries which for the most part were represented by delegates at the meeting here (the United States of America by G. H. A. Clowes of Buffalo); unfortunately, England has not yet joined this association. As in political and commercial fields so in the field of scientific investigation, apparently, petty jealousies are not entirely to be avoided, although the common aim of scientific investigation ought to prevent such discords.

The International Association for Cancer Research has, according to the sketch of the constitution, the following purposes: 1. The promotion of institutions for research, as well as for the care of cancer patients, and the campaign against cancer. 2. The collection of uniform international statistics regarding cancer. 3. The formation of an international intelligence bureau for all questions regarding cancer research. 4. The publication of an international journal for cancer research. 5. The preparation of international congresses on cancer. 6. The education of the public regarding the nature of cancer, in order that the laity may recognize it as early as possible.

Each country belonging to the association has the right to appoint ordinary members, the number of which is two for a population up to 10,000,000 and one for every additional million up to a maximum of five. To defray expenses each participating country must provide annually 100 marks ($24) for each ordinary member. E. v. Leyden was elected permanent honorary president; Czerny (Heidelberg), acting president, and G. Meyer (Berlin), general secretary. The above-mentioned tasks of the international association have already been partly taken in hand by the Prussian committee. A statistical investigation of cancer was undertaken in Germany in 1900 and it was to be determined, by sending question blanks to all the German physicians, how many cancer patients were under medical treatment in the German Empire on a given date (Oct. 15, 1900). The results of this general investigation were published in 1902. They can only be regarded as inadequate as naturally the diagnosis could not be confirmed. It is safe to say that the statements of the physicians would have been shown to be false in not a few cases, when tested by competent expert examination or by the results of an autopsy. From this point of view an accurate statistic of cancer can be obtained only by means of the material of hospitals in which reliable clinical or pathologic investigators assure the correctness of the diagnosis.

Keeping in mind this important limitation, some interesting results can be derived from the material obtained by the German collective investigation. Altogether 25,376 physicians and institutions were interrogated; 14,060 (55 per cent.) sent answers. A total of about 12,000 patients with cancer were under treatment in Germany on the designated day. In the various districts of the country, the figures varied remarkably; in the case of men, 47 per million inhabitants (Schaumburg-Lippe) and 270 (in the district of Aix-la-Chapelle); in women from 65 (district of Bromberg) to 551 (Lübeck). The question whether there was a hereditary taint was answered in 9,147 cases, being denied in 83 per cent. of the cases and regarded as existing or as suspected only in 17 per cent. In 435 cases the attending physician suspected a conveyance of the cancer by infection. We must repeat that no binding conclusions can be drawn from these statements, and in this respect it is our opinion that the results of such a collective investigation do not correspond to the trouble and cost which they involve. Scientific investigation in this field can show somewhat better results from the introduction of experiment.

Ehrlich (Frankfort-on-the-Main), one of our most gifted scientists, whose services in the introduction of diphtheria antitoxin are much greater than is generally known, has published a series of investigations by which great light has been thrown on the origin and transference of cancerous tumors. Bashford in England, Borrel in Paris, Jensen in Denmark, Podwyssotzki in Russia, Loeb and Flexner in America, have worked effectively along the same lines. To be sure almost all the results of the investigation refer to the experimental cancer of animals, and we know how careful one must be in transferring such results to human pathology. Meanwhile it has been shown that the view of most pathologists that a parasite is not involved in the origin of cancer is remarkably sustained by animal experimentation, and that the problem of the development of cancer is connected only with cancer cells.

It is a long way from investigations regarding the pathogenesis of cancer to a successful campaign against the disease, and all attempts which have hitherto been made have produced indifferent results. A serum against cancer has not yet been discovered. Experiments with the ferments, with arsenic preparations and the like are not yet completed, and for the present the knife still remains the most successful remedy. Whether treatment with high tension sparks, recently recommended by the Marseilles physician, Keating Hart, for inoperable carcinoma (or as a preliminary to operation), will furnish favorable results and fulfill the hopes which it has aroused, remains to be seen. Radiotherapy has shown positive results only in cancer of the skin. In consideration of the relatively slight prospect of curing patients with cancer, especially when the disease is already somewhat advanced, it must be regarded as an urgent duty to keep the lay public informed regarding the nature of the disease and to urge them to secure timely medical treatment. The physicians of Germany in late years have repeatedly sought to secure action in this direction, and the gynecologists particularly have been active in promulgating the facts about the earliest signs of cancer by the so-called warning circulars (Merkblätter), which have been distributed by many thousands.

In addition to the task of bringing patients with cancer as early as possible under medical treatment, a second object must be considered, which from a social and humanitarian standpoint deserves equally great consideration, namely, the sufficient care of incurable cancer patients and (considering the possibility that cancer is communicable) the prevention of the spread of the disease. For this purpose stations for the care of cancer patients, analogous to tuberculosis dispensaries, have been established in some parts of Germany, in which incurable cancer patients are given medical advice and are cared for by nurses so far as possible. These dispensaries are attached to the institutions for cancer research where such have been established. At present this organization is not very extensive. In Germany there are three cancer institutes (in Berlin, Frankfort-on-the-Main and Heidelberg); the number of dispensaries for cancer patients also is still small.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, July 14, 1908.

Governmental Precautions Against Pellagra.

In the eastern parts of the empire a disease has been very prevalent among the poorer classes for some years past, which has proved puzzling to the profession. The clinical symptoms somewhat resembled those of lepra, but differed in not having the anesthetic patches with consequent dystrophic destructive processes. Profound cachexia with gastrointestinal disturbances are generally observed after the disease has persisted for from 12 to 18 months. In many instances these were the only symptoms, while in other cases circulatory disturbances are a prominent feature. Similar cases were reported from neighboring districts of Russia and Roumania, and many scientists studied the disease. It was finally agreed by the majority of the investigators that the cause of the condition lay in the food. The peasants live largely on maize, making bread and other foods out of this material; a dish called "polenta," consisting of coarsely ground maize with lard, is partaken of heartily daily. In certain wet years the corn was affected by a sporidium and became still more unwholesome because of the presence of certain toxic substances which are held responsible for the disease just described—pellagra. In the province mentioned, inhabited by 1,500,000 people, there were over 38,000 cases reported (3 per cent.). The government then established in every community bakeries in which bread from fresh flour was baked and distributed; each patient received daily a loaf weighing two and one-half pounds. In addition, the sick were given salt and meat for a period of from 16 to 40 weeks. Pamphlets were distributed which described in a popular way the cause of, and remedy for, the disease. The results have been gratifying. The scheme, which has been in force for two years, has resulted in 86 per cent. of the patients being benefited to such a degree that they are able to do their ordinary work; even in cases of from four to eight years' standing. In some districts the administration of a mixture of iron, arsenic and quinin was added to the dietetic and hygienic measures, but no marked superiority in the effects of the treatment was observed. [The discovery of the presence of pellagra in some of our own southern states has been chronicled recently in these columns. For example, see page 397, this issue.—Ed.]

Public Health Statistics in Austria.

The public health statistics of Austria recently published contain some figures of interest to physicians. Thus in 1906 there were in Austria (population 26,000,000) 242 public hospitals and 485 private hospitals, with 52,000 beds, which were used by 640,000 patients. There was on an average one hospital bed to every 500 inhabitants, but the ratio varies (with the density of the population and the intelligence of the districts) from 1 in 1,260 to 1 in 111. Of the patients in the hospitals, 30,500 (5 per cent.) suffered from tuberculosis, with a mortality of 30 per cent. There were 14,600 cases of cardiac affections, with 3,900 deaths. Pneumonia (10,220 cases) proved fatal in 24 per cent. of the cases; diphtheria (6,900 cases) in 11 per cent.; 2,800 cases of scarlatina resulted in 530 deaths (12 per cent.). These figures refer to the hospital cases only. With reference to the insane, 42 hospitals (public and private) cared for 30,000 patients, with 2,100 cures and 2,920 deaths. Apart from the patients cared for in institutions, there were 18,200 lunatics cared for privately and 17,320 cretins or idiots. In 20 maternity hospitals, 25,600 mothers, with 20,740 infants, were cared for. Regarding the medical profession, there were 11,200 doctors of medicine (M.D.), of whom 6,820 held public appointments; the majority of the latter (62 per cent.) had, besides, the right to practice privately; the remainder had to devote their whole time to their official appointments. There were, too, 720 doctors of surgery (Ch.B.), of whom 70 per cent. were appointed to public office. The latter degree has not been granted since 1880, so that all these men had been in practice at least 26 years. The ratio of physicians to population was one to 2,050, but these figures are naturally variable. In Vienna there is one physician for each 650 inhabitants, while in Prague there is one to 520. In the flat country there was one physician to from 1,800 to 2,600 inhabitants, and in one place with a population of 9,260, there was but one physician.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
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CLEVELAND, OHIO.

(*Continued from page 330.*)

XIX. DRUG-STORE THERAPEUTICS.

There is an old and international proverb that the shoemaker should stay by his lasts. There is a science of political economy which shows that the highest efficiency can only be attained by intelligent specialization. There is, too, a popular impression that the doctor who does the work of a druggist does not belong to the elect. Nevertheless, physicians do dispense. I do not refer, of course, to the occasional administration of a morphin, strychnin or nitroglycerin tablet; but to the systematic practice of the dispensing physician. I can understand how a physician may be forced into this; if the nearest drug-store is far away, or if his practice is so small that he must add to it in some way.

But short of actual necessity, why does he do it? Not that there is anything dishonorable about the profession of pharmacy, if it is properly carried on. It becomes dishonorable only when it is followed improperly or inefficiently. The pharmaceutical training of the ordinary medical course does *not fit the physician to prepare emulsions or pills, or tablets* which would be acceptable to patients. Of course, any one can count out tablets, or even pour a mixture from a bottle. Indeed, when a physician has arrived at the point where he is content to confine himself to the ready-to-wear prescription of the manufacturing houses, to the practice of drug-store therapeutics, he may as well adopt the other practices of the low-grade drug-store. Only let such a one drop all cant about "counter prescribing" on the part of the druggist. In what essential respect does his practice differ from that of the druggist, when both dispense the identical "anticoryza tablets," or "diarrhea mixture," or "anticonstipation pills," or "tonsillitis lozenges," or "antirheumatic improved?" In this respect only: The doctor knows better, if he would only stop to think; the druggist possibly does not. Who deserves the greater blame?

(*To be continued.*)

Dujardin-Beaumetz on the Problems of Therapeutics.—A Quarter Century Ago and To-day.

The following quotations from the introductory lecture on "Clinical Therapeutics" of the renowned French therapeutist are quite as apt to day as they were when written, a quarter century ago. Evidently, therapeutics has not yet been purged of its unscientific features. Is it not time that it should be? The remedy exists—is there any good reason why it should not be applied?

"When occupied with therapeutics there are two dangerous rocks to shun: Skepticism on the one hand, exaggerated enthusiasm on the other. To believe too much, and not to believe at all are two opposite terms, but they are not so far apart as one might suppose. The one engenders the other, and extreme credulity gives rise to incredulity.

"Beware especially of skepticism. A physician who lacks faith in medicine has no more reason for existence than a priest who does not believe the religion he teaches, or a soldier who is destitute of love for his country and his flag. It is repugnant to reason and to conscience that he can be a good physician who judges of no utility all the remedial agents that have the sanction of tradition and custom. . . .

"Believe, then, in your art, but that this belief may be judicious, reasonable, let it not suffer you to be too easily carried away by what you may deem results of your medication; in therapeutics, illusions are indeed very frequent. This arises from numerous causes, especially from the propensity of the human mind to attribute all that eventuates favorably in the course of the disease to the medicine given, when very often it is only the natural evolution of the disease which the physician has observed.

"This explains to you why it has happened that certain remedies, exhibited with success in some epidemic and contagious diseases, in other seasons have failed to give as good results. This is an example of those therapeutic illusions which have cumbered the materia medica with so many drugs that have obtained a certain brief reputation in their day, soon to fall into forgetfulness and neglect, until another experimenter repeating the trials of a bygone time, restores them to passing notoriety.

"This celebrity, then; this decadence of remedial agents, are unfortunately facts of too great frequence in therapeutics. So after having pruned away all the useless and superfluous substances of the materia medica, if you retain only those which medical practice has consecrated by long usage, you will find that the really useful medicaments are much less numerous than one would suppose, and your daily practice will include but a few drugs. . . .

"Do not employ too many remedies at the same time; do not in your busy endeavors to serve your patient, inflict on him medicines and medications widely differing in their action. Study with care the disease which is before you; go back to the origin of the morbid affection; formulate the leading indications resulting therefrom; decide concerning the diatheses which have influenced the course of the malady, institute a plan of treatment and endeavor to carry it out with a very moderate exhibition of drugs. . . .

"This is not all: it is desirable that the physician should use the utmost care in prescribing his medicines. The hospital practice does not, unfortunately, favor this special study; we find ourselves in a particular situation which obliges us *to formulate too rapidly and incompletely, so that after having* followed for several years our hospital services, the most of you are entirely ignorant of the art of prescribing.

"This ignorance has more serious consequences than you think of, and if we see, in our day, the pharmaceutical specialties having a constantly increasing importance, it is in some measure due to the fact that physicians do not acquire that expertness in the preparation of their medicines which they ought to possess, and prefer lazily to rely on the combinations of the manufacturing chemist, trade-mark preparations, or even the nostrums of the charlatan.

"But, if by pursuing this course, the practitioner often promotes the fortune of the pharmacist, he despoils himself in the end, for the patron, beguiled by the advertisements which accompany his nostrum, is almost certain to apply in the future, not to his physician, but to the vender of the trumpeted drug.

"Learn, then, skilfully to prescribe, and not only to write in an orderly and judicious manner the substances which compose *your prescription, but also to render the combination as* pleasant to the taste as possible. Repudiate, therefore, in a general way, all the specialties which inundate the therapeutics of to-day. Exercise the greatest care in the directions which you *give to the patient or his nurses; do not fear to* enter into the minutest details; indicate how the external applications should be made, and the times for giving the internal remedies; regulate carefully the little incidents of the day, and be particular about the diet. For you must ever remember that pharmaceutical measures go but a little ways in the care of your patient, and that you can often accomplish more by hygiene than you can accomplish by medicine."

Casts of Infants' Stools.—R. Gaultier presented at the meeting of the Paris Pediatric Society, May 19, a collection of casts, reproductions of the stools of infants. Each was accompanied with a label describing the type: the meconium of the newborn; the normal stool of the breast-fed infant; of the child on sterilized milk; of the child with mucous enterocolitis; with acute bilious gastroenteritis, and the white stools of chronic gastrointestinal dyspepsia. The description noted also the number of stools in the twenty-four hours, the typical tint, quantity, aspect and consistency, odor, reaction, and microscopic, chemical and bacteriologic analysis, with the dietetic measures which each type should suggest. He thinks such casts would prove valuable for students, midwives, nurses and mothers, if such a collection were installed as an object lesson in children's hospitals, crèches, dispensaries, etc.

Correspondence

Hawaii as Seen by a Physician.

Honolulu T H June 10, 1908

To the Editor —Those of us who by the influence of tradition, have believed the natives of the Hawaiian Islands to be cannibals, should be ashamed of ourselves The records of the earliest missionaries show the Hawaiian a very decent fellow The worst that may be said of the primitive Hawaiian is that he had implicit faith in the fish luring properties of the hooks made from the bones of a deceased chief

The *Kahuna* (native doctor) has passed into oblivion Never again shall his Laau (primitive medicines) blister the smooth, tan skin or nauseate the stomach of a trusting patient The *Kahuna* with his charms and tricks, had to go, the *Kauka* (white doctor) has taken his place To the wise, a word is sufficient, but a suggestion is all that is needed by the average native of these islands As readily as he accepted Christianity, did he accept rational medicine The *Kauka* is a great man

With the exception of a few Chinese and Japanese, the medical profession of the islands is made up of white men, some of whom were educated in Europe The majority, however, received their training in the United States Many of them are members of the American Medical Association This may be easily verified by a peep into the new directory of the Association

Arriving here I called on Dr C B Cooper, ex president of the Board of Health, and also the ex president of the Board of Medical Registration Told him I was going to the leper colony 'If you do," he said "I hope you will not write it up" The territory recognizes no United States license or diploma If you want to practice medicine within the islands of Hawaii you must pass the board

The board is composed of three physicians appointed by the Board of Health Calling at the office of Dr Herbert, the president of the board, I introduced myself by explaining I was going to be on the islands for a time, and that while here would like the privileges of legal standing He greeted me with that 'Glad to meet you, old chap," cordiality, which characterizes the English gentleman He was sorry the law required an examination regardless of credentials, but to save me the bother of waiting the next regular quarterly meeting, he would call a special gathering of the board The examination was written It covered the ground as thoroughly as any of the examinations within the United States, but with the fair play exception that all "catch" or obscure questions were omitted If successful, you must accept your license with the understanding that should you be guilty of unprofessional conduct, your license will be revoked Surely, an ideal way of granting a license to practice medicine

There is not an 'irregular" in the territory He who would dare to extol his ability *per vias* printer s ink is a voluntary deserter from all that is true and good of medicine and in consequence, pays the penalty of losing all right to his title of doctor The newspapers of the islands have doubtless suffered on account of being deprived of publishing the advertisements and reproducing the picture of the fellow with the cure for leprosy Really, in this respect I found the Hawaiian newspapers unique

Including the bungalows of the various sugar plantations, there are many hospitals within the islands Honolulu, with a population of 6 000 whites and Hawaiians, Chinese and Japanese enough to make an aggregate of 40,000, supports two hospitals, one maternity home and a sanatorium for the out door treatment of tuberculosis The principal hospital is situated in a grove of date and royal palms It is a beautiful place This institution was founded several years ago by Queen Emma It still bears her name, although careless brevity has contracted it to 'Queen's Hospital" Two resident physicians, Drs Sexton and Hunt, assist during all operations, do the work of the chemical, microscopic and pathologic laboratories, and direct the nurses relative to the care of the patients That this institution is well and scientifically managed I was afforded ample opportunity to observe

In point of notoriety, leprosy undoubtedly heads the list It is met in two varieties, i e, tubercular and anesthetic Each variety may be seen in different degrees of severity So much has been written about the leper settlement at Kalawao, on the Island of Molokai, that word now might seem superfluous, yet in all that has been written, even to the article of our illustrious Senn, the writers seem to have been influenced by the literary possibilities more than the actual conditions as I have found them to exist

The write up which Jack London gave the place betrayed plot No one but a novelist could have written such an article But so much sensational 'yellow" stuff had been written that one is willing to forgive London for turning the place into a House of Mirth The conditions existing in any ward in Chicago or New York, in fact in any city, would be illustrative of the settlement at Kalawao It is just a town of about 1,000 population Instead of it being an Irish or German village, it is leper Like the Irishman or German who never bothers himself about what he is, 'the average leper is equally as indifferent Moreover, there are many things toward which he may "point with pride", things achieved by fellow lepers In the village are the well, the sick, the dying A funeral is no more here than it is on State Street in Chicago In that little house, back under the pali, a leper woman is being confined One of the village doctors is with her His obstetric technic is "aseptic" That his patient is a leper gives him no concern He is not afraid to sit on the side of the bed and hold the hand extended to him during the pain He may apply forceps, and at length, when the funis is cut and tied, in his own mind he may question the propriety of allowing this non leprous infant to remain in the settlement The children of leprous parents are almost invariably non lepers In the house just over the way, from the store, you hear music and a voice of natural sweetness from the throat of a leper Hawaiian girl, breaks into the hum of the settlement, while you stand mute listening to the familiar strains of 'School Days," and when she sang 'Let's Take a Trip on Memory's Ship" I wondered Think of Molokai as you would of your own village, the good, the bad, the young, the old, the youth, the maid, the sick, the well, the strong, the weak, the rich the poor, the workers, the drones; and you will have it right It is not all mirth, as pictured by London, nor is it all gloom—just like the conditions at home, except that all are lepers

My first trip to Kalihi, the detention hospital at Honolulu, was to examine, with Drs Cooper and McDonald, two suspects who had just arrived One of them was a young man, 18 years of age, who had the disease in one of its malignant forms He was, notwithstanding his unsightliness, an intelligent boy and displayed wholesome modesty when asked to strip Leprosy is not nearly so contagious as I was wont to believe before coming here, but many good reasons may be given for insisting on the segregation plan The leper at large is thoroughly despised and shunned, he takes a new grip on life after having been admitted to the colony of his fellow lepers, for they are all glad to see him

The islands are subject to outbreaks of plague and the Board of Health is constantly waging war on the rats Beri beri is quite common among the Orientals, I have seen a few cases, also one case of ankylostomiasis

Like many of the diseases which crept from the internist to the surgeon before a cure was established, leprosy is looking toward the scalpel and sharp curette as instruments capable of checking its ravages The good which follows the brisk scraping of a leprous ulcer is marvelous

The Hawaiian race is rapidly becoming extinct The statistics approximate one birth to every four women At this rate the race will soon be gone unless it is that some occult necessity is demanding an installment of the law of natural selection If so the law has attacked the proliferating power alone for ordinary infections, postoperative, are seldom seen Union by first intention, even with a septic environment, is always expected This immunity is believed by some due to the abundance of pure, ocean air Others say it is seen only in the Hawaiian race

J C O'Day, M D
Of Marshfield, Ore, formerly of Oil City, Pa

Book Notices

The Theory and Practice of Antirabic Immunisation. By Captain W. F. Harvey, M.B., I.M.S., and Captain Anderson McKendrick, M.B., I.M.S., No. 30 of the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Paper. Pp. 43. Price 1s. 2d. Calcutta: Superintendent of Government Printing, India.

The authors consider that the essential point for the prophylactic immunization against hydrophobia is the introduction of a certain quantity of virus (measured by some method of standardization) within a given period, and that probably the different methods of immunization which are practiced in various institutes are not so divergent as might seem from the schemes. They suggest an arbitrary "unit" of the fresh rabic virus, this unit being the quantity contained in 0.2 c.c. of a 1 per cent. emulsion of fresh rabies material. With this scheme, then, 0.2 c.c. of a 1 to 1,000 dilution would contain 100 units, and 0.2 c.c. of a 1 to 10,000 dilution would contain 10 units. They then proceed to reduce the Högyes scheme of immunization, in which only fresh virus is used, to terms of units.

In order to express in units those systems in which the dried cord is used, it is necessary to determine the virulence of cords dried for different periods, as compared with the virulence of the fresh cord. In investigating this point they find that "the degree of infectivity of rabies virus is a function of the loss of weight in water caused by drying." They find: (1) That emulsion of nine day cord is little if at all infective in a dose of 0.2 c.c. of a 1 to 5 emulsion. (2) That emulsion of a five day cord is infective in minimal time in a dose of 0.2 c.c. of 1 in 100 emulsion, but becomes less so or not at all in a dose of 1 in 200 emulsion. (3) That in the same way the M. I. D. (minimum infective dose) for an emulsion of three day cord is 0.2 c.c. of a 1 in 200 emulsion. (4) That the M. I. D. of two day cord is not less than 0.2 c.c. of a 1 in 1,000 emulsion and probably not so great as 0.2 c.c. of a 1 in 2,000 emulsion. (5) That the M. I. D. of one day cord is not less than 0.2 c.c. of 1 in 4,000 emulsion and almost certainly not greater than 0.2 c.c. of 1 in 8,000 emulsion. (6) That fresh material is infective in a dose of 0.2 c.c. of a 1 in 8,000 dilution, and may be so in considerably higher dilutions even up to 1 in 40,000, but that with such high dilutions the experimental errors become so great as to exclude any more exact fixation of the M. I. D. On the basis of these determinations they express the Pasteurian treatment (Kasauli scheme) in terms of units.

Other interesting points are brought out, such as the fact that cord dried for nine days probably has little immunizing power, whereas that of the five day cord has considerable. The five-day cord might indeed be used for the whole treatment, but even this they regard as only a compromise, believing that the tendency is toward the exclusive use of fresh rabic material for the treatment. The work of recent years seems to show that the fixed virus is not infective for man, in spite of its immunizing power.

They take the position, but it would seem without sufficient experimental basis, that there is no such thing as a "rabies toxin."

Diseases of the Nose, Throat and Ear. By William Lincoln Ballenger, M. D., Department of Medicine, University of Illinois, Fellow of the American Laryngological Association. Cloth. Pp. 905, with illustrations. Price $5.50. Philadelphia and New York: Lea & Febiger, 1908.

A more thorough knowledge of the pathology of the diseases of the ear and the etiology of the same has closely united the specialty of otology with that of rhinology so that it is but natural that the text-books should follow the lead of the specialists themselves and embrace the nose, throat and ear. Ballenger's book is a valuable contribution to the literature on this subject. The book is divided into four sections, Part 1 being devoted to the nose and accessory sinuses. The first three chapters contain a general discussion of the subject and describe the office equipment. The deviation of the septum is then discussed in a very masterly manner. One especially good point the author brings out is the variety of operations for the correction of this deformity, stating that no one operation can be suited to all cases, and as the various operations are described in detail, the reader is in a position to select the operation which is fitted for his individual case. He then devotes three chapters to the consideration of the nasal accessory sinuses. The only criticism that we could find with this section of the work is that the author presupposes a knowledge of anatomy on the part of the reader as the minute anatomy of the sinuses is not thoroughly brought out. However, a sufficient amount of anatomy is given to allow the reader to understand the points which the author desires to make.

Part 2 is devoted to the pharynx and fauces and deals with the various inflammations and functional neuroses of the pharynx. Four chapters are devoted to the consideration of the tonsil, the surgical one being especially complete. Part 3 covers the larynx and contains a chapter on the newer methods of bronchoscopy. Part 4 is devoted to the ear. It deals with the functional tests of hearing, the general etiology of defective hearing and the various inflammatory diseases.

The mastoid operations and various complications are described in detail and form a very valuable portion of the work. One excellent point in the work is the way in which the various operations are illustrated step by step, so that the reader may obtain a clear idea of the text and associated drawings. The book is well adapted to the practical wants of the physician wishing to make a specialty of this subject, but, as above mentioned, presupposes a thorough knowledge of the anatomy of the parts.

Pharmacology. By Maurice Vejux Tyrode, M.D., Instructor of Pharmacology in the Medical School of Harvard University. Cloth. Pp. 255. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

By careful selection of the positively known facts and rejection of vague and contradictory statements of no importance, and by a systematic arrangement of his material the author has produced a text-book which should be welcomed by teachers of pharmacology. The remedies are arranged in groups and a careful summary of the group action of each group is given. The therapeutic applications are brief and easily remembered by the student. There is less detail in the matter of administration and use of remedies in external applications than is desirable, unless this lack is to be supplied from some other source. Unfortunately the nomenclature of the Pharmacopeia is only imperfectly followed. Thus while carbolic acid is given its proper name, Phenol, we have Unguentum Acidi Carbolici and Glyceritum Acidi Carbolici. Moreover, the unguentum is given as 5 per cent. instead of 3 per cent., which is official. The phenolsulphonates are listed as sulphocarbolates with no hint of their official names. Thymol is put down as Thymolum, U. S. P., from which the student would naturally learn to write Thymoli iodidum instead of Thymosis isodidum. These errors will undoubtedly be corrected in the second edition, to which we expect that this book will soon attain.

The Healing of the Nations. By J. Rutter Williamson, M.B., Edin. Cloth. Pp. 95. New York: Student Volunteer Movement for Foreign Missions, 1899.

An earnest and cogent presentation of the need for medical missionary work, its opportunities and possibilities. Statistics and a bibliography add to its value while illustrative stories and descriptions enhance the interest.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TRANSMISSION OF BOVINE TUBERCULOSIS TO MAN.

To the Editor:—In reply to the inquiry of Dr. E. J. Brady, Kalamazoo, Mich., regarding the transmission of bovine tuberculosis to human beings (*The Journal*, May 9,1908), you state that the question is not yet settled. I had supposed that the reports of the German commission and of the English royal commission had finally laid at rest any doubts which may have been held on this subject. Will you be good enough to give me references to articles by any one within the last five years who still believes that the bovine bacillus can not produce tuberculosis in the human being?

Mazyck P. Ravenel, Madison, Wis.

ANSWER—We are grateful to Dr Ravenel for calling attention to the fact that our answer, to which he refers might possibly lead to misunderstanding in a question of such practical importance Our answer, however, was not intended to deny the occurrence of infection of man with tubercle bacilli of the so called bovine type We were perfectly aware that such occurrence has been proved by ample experiments Koch even who by his speech in London (1901) started the discussion of this question, did not deny that the bovine bacillus can produce tuberculosis in man, neither does his school But they do hold that this is a relatively rare event, so much so as to make it a negligible quantity in prophylaxis, the principal source of infection being the consumptive individual Weber, on page 5 in the 1907 volume of the 'Tuberkulose Arbeiten aus dem Kais Gesundheitsamt" still insists on the rarity of bovine infection in man Last year, in Section I of the Fourteenth International Congress of Hygiene and Demography, the subject was thoroughly discussed Kisskalt (*Deutsch Med Wchnschr*, 1907, xxxiii, 1719) in his report of the deliberation, insists that both the principal papers (Arloing, Flugge, Ravenel, Ribbert, von Schrotter) and the discussion 'showed that in the course of the last years in spite of the enormous amount of work done on the subject there has not taken place a clearing of opinion in one single point ' The report of the English commission has also not been able to disprove the theory that "the great distribution of consumption is due in the preponderant majority to infection from human sources, it has on the contrary furnished new proofs for it" (Kossel, *Deutsche med Wchnschr*, 1908, xxxiv, 180) Therefore while the question of transmissibility of bovine tuberculosis to man is absolutely settled from a scientific standpoint, there is still some question as to its practical importance But the warfare against bovine tuberculosis, in which Dr Ravenel is so prominently engaged, is based on sufficient theoretic and practical evidence It would be a great calamity if less vigorous measures, especially as regards the meat and milk supplies, were to be enforced on account of certain unsettled points

AN EFFICACIOUS TOOTHACHE REMEDY

DR T W WILLIAMS, Milwaukee, writes that he has discovered a quick, safe and reliable remedy for toothache in the following combination 'Make a mixture of 55 parts of alcohol and 15 parts of oil of cloves To seven parts of this mixture add one part of chloroform To one ounce of this compound add 4 grains morphin and 4 grains cocain Apply with a small pledget of cotton If the ache returns repeat Two or three applications will usually permanently relieve the trouble"

This would be approximately represented by the following prescription

℞	gm or c c	
Alcoholis	15|4 or	f℥ss
Olei caryophylli	12|6	fʒiiiss
Chloroformi	4|0	fʒi
Morphinæ		
Cocainæ	0|26	āā gr iv

M et Sig Apply on small pledget of cotton

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U S Army week ending July 25, 1908

Mason, C F, maj, M C, detailed to represent the Medical Department of the army at the meeting of the American Public Health Association, Winnipeg, Manitoba, Canada, Aug 25 to 28, 1908

Harris H S T, maj M C, granted an extension of ten days to his leave of absence

Johnson R W maj, M C left Havana, Cuba, on leave of absence for one month in the United States

King Edgar, first lieut, M C relieved from further duty in the *Philippines Division* and assigned to duty in the Army Transport Service, with station at San Francisco

Bush, R C, first lieut M R C ordered to Ft D A Russell Wyo, for duty

Dean, W R, first lieut, M R C, ordered to A G H, Washington, D C, for duty

Woodbury, F T capt, M C, ordered at the expiration of his present leave of absence to Ft Assiniboine, Mont, for duty

Hammond, W G dent surg, left Whipple Barracks Ariz, for duty at Fort Huachuca Ariz

Tignor, E P, dent surg, left Pine Camp, N Y, for duty at Ft Jay N Y

Waddell, R W, dent surg, arrived at Ft Slocum N Y, for duty

The following named first lieuts M R C, recently appointed from contract surgeons U S A, with rank from July 7 1908 are ordered to active duty July 22 1908, in the service of the United States and are assigned to duty at their present stations Adair, G F, Barney, F M, Bell, L P, Brewer, I W Card D P, Chase A M Chase C L, Congelmann, F J, Drake P G Dunbar, L R, Enders, W. J, Freeland, H L Gracia, L C George, W R S, Graves, L K, Griffis F C, Griswold, W. C Halliday, F A, Harmon, D W, Harris, H I, Hart, J W Hart, W L, Hasseltine, H E, Henning, O F, Jarrett, A R Johnson C W, Kennedy, J S, Love, J W, McCallum, F M, MacDonald C E, Magee J C, Marvin, M F, Miller, A L, O'Day, S F Peck, L B, Pinquard, Jos, Reagles Jas, Roberts E E Sanford J L, Slater E F, Stearns, C. H, Stockard J. K, Suggs, Frank, Tenney, E S, Trotter Tyler, Geo, Tuttle A D Wall F M, Watkins, V. E, Wertenbaker, C I, Weston, H R, Whitney, Walter, Wiggin, D C, Woolley, H C, Wren, R J, Yemans, H W

Navy Changes.

Changes in the Medical Corps, U. S Navy, for the week ending July 25, 1908:

Hoen, W S, P A surgeon, ordered to Washington, D C, and report to the Bureau of Medicine and Surgery, Navy Department, for further orders, when discharged from treatment, at the Naval Hospital, Mare Island, Cal

Strite, C E, asst surgeon, detached from the *Franklin* and ordered to the Naval Hospital, Norfolk Va

Cole, H W. Jr, asst surgeon, ordered to the Navy Yard Charleston, S C

Stalnaker, P, R, asst-surgeon, ordered to the Naval Hospital, Annapolis, Md.

McGuire, L W, asst surgeon, detached from the Navy Yard, Charleston, S C, and ordered to the *Montana* when commissioned

Bishop, L W, passed asst surgeon, detached from the naval recruiting station, Indianapolis, and ordered to the Naval Hospital, New York, for treatment and observation.

Crow, G B, Clifton, A L Phelps, J R, asst-surgeons, commissioned assistant surgeons from July 15, 1908

Biddle, C, medical inspector, detached from the marine recruiting station, Philadelphia, ordered home and granted leave for two months

Sutton, D G, asst surgeon, detached from the naval hospital, Newport, R I, and ordered to the *Franklin*

Rhoades, G C, detached from the *Franklin* and ordered to the *Scorpion*

Public Health and Marine-Hospital Service.

List of changes of station and Duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the seven days ended July 22, 1908:

Mead, F W, surgeon, directed to proceed to Tuckerton and Atlantic City, N J, for the purpose of examining keepers and surf men of the Life Saving Service, on completion of which to rejoin his station at Savannah, Ga

Wasdin Eugene, surgeon, granted leave of absence for one month, from Aug 1, 1908

Clark, Taliaferro, P A surgeon, directed to proceed to Lebanon, Pa, for special temporary duty, on completion of which to rejoin his station at Philadelphia

Schereschewsky, J W P A surgeon directed to proceed to Ocean City, Md, and Chincoteague, Wachapreague and Cape Charles City, Va, for the purpose of examining keepers and surf men of the Life Saving Service, on completion of which to rejoin his station at Baltimore

Bahrenburg, L P H, P. A surgeon, directed to proceed to Point Pleasant, N J, for the purpose of examining keepers and surf men of the Life Saving Service on completion of which to rejoin his station at Ellis Island N Y

Ebert H G, asst surgeon, relieved from special temporary duty at San Francisco and directed to report to medical officer in command, San Francisco Quarantine Station, Angel Island, Cal, for duty and assignment to quarters

Mullen, E H, asst surgeon granted leave of absence for 2 days, from July 15 1908 on account of sickness

Clark E S, acting asst surgeon leave of absence granted Acting Assistant Surgeon Clark for ten days from June 11, 1908 amended to read for six days from June 15 1908

McGinnis, R H, acting asst surgeon granted leave of absence for 15 days from Aug 17 1908

Safford, M V, acting asst surgeon granted leave of absence for 5 days, from July 14, 1908, under Paragraph 210, Service Regulations

Health Reports.

The following cases of smallpox yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended July 24, 1908

SMALLPOX—UNITED STATES

e 27 July 4 1 case, imported.
es, June 27 July 4, 1 case.
4 11, 1 case
July 5 12, 2 cases
27 July 4, 7 cases
July 4 11 1 case
Louisiana, New Orleans, July 4 11, 2 cases
Maryland: Baltimore July 4 11, 1 case
Michigan: Detroit July 4 11 1 case
Missouri: Kansas City, July 4 11, 1 case; St Joseph, June 27-July 11, 2 cases
Ohio Cincinnati, July 4 11 1 case
Texas San Antonio, July 4 11, 1 case
Washington Spokane, June 27 July 4 8 cases.
Wisconsin: La Crosse, July 4 11, 7 cases

SMALLPOX—INSULAR

Philippine Islands Manila May 23 June 6 15 cases, 9 deaths
Porto Rico Mayaguez, June 20 27 2 cases

SMALLPOX—FOREIGN

Canada Halifax June 27 July 4 6 cases
China Hongkong May 23 June 6, 7 cases, 4 deaths.
Ecuador Guayaquil, June 13 20, 6 deaths

France Paris June 20 27 2 cases
India Calcutta May 23 30 20 deaths
Italy General June 21 28 49 cases Palermo, June 6 20 6 cases 2 deaths Turin June 7 14 1 case
Mexico Mexico City May 16 20 47 deaths
Russia Moscow, June 13 20 32 cases 5 deaths, Odessa May 23 June 20 23 cases 2 deaths Warsaw May 16 23 4 deaths
Spain Barcelona, June 1 30, 3 deaths Valencia, June 20 27, 9 cases 1 death
Turkey Constantinople May 22 29 6 deaths

YELLOW FEVER

Cuba Daiquiri, June 18 20 3 cases
Curaçao June 26 July 3, 1 case, 1 death
Ecuador Guayaquil, June 13 20 1 death

CHOLERA

India Calcutta, May 23 30, 81 deaths

PLAGUE

British Gold Coast Akkra May 26 3 cases 3 deaths
Chile: Antofagasta, May 30, 18 cases 2 deaths, Arica, June 2, present
China Hongkong May 23 June 6 271 cases, 221 deaths
Ecuador Guayaquil June 13 20 1 death
India General, May 9 June 6 1 409 cases 1,196 deaths Calcutta May 23 30 60 deaths Madras, May 3 June 5 4 deaths
Japan Nara June 24 14 cases
Peru General, June 13 20 18 cases 10 deaths
Straits Settlements Singapore May 23 30, 1 death
Trinidad June 22 July 1 4 cases
Venezuela La Guaira, June 30 1 death

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC

Providence Court of Foresters Abolishes Contract System

Elmwood Court No 30, Foresters of America, of Providence (R I), has decided to cancel its contract with a local physician for lodge practice, and hereafter to allow each member of the lodge to employ his own physician and to send the bill for medical services to the lodge Elmwood Court has employed a lodge physician for eighteen years, paying $1 50 per member per year, making a yearly average of $180 to the physician According to the Woonsocket (R I) *Evening Call*, in which the announcement of the action of the lodge appears, there is no criticism whatever of the work done in the past by the lodge physician The lodge has decided, however, that the contract system is not the best way of securing proper services for its members

This action is most interesting as evidence of the realization on the part of fraternal organizations that the contract plan is pernicious and harmful, to physician, individual member and lodge and that it inevitably tends to cheap work and poor results If the fraternal organizations once thoroughly realize that the existing plan of contract practice is poor economy, they will speedily abolish it themselves and will substitute therefor a fair and equitable means of compensating physicians employed by them to attend their members So long as the physician is paid a proper price for his services, such as will enable him to give his patients the care and attention to which they are entitled, there is no reason, either ethically or legally, why an agreement should not be made with an organization the same as with an individual The pernicious features of lodge practice, as has been emphasized repeatedly in The Journal, are that the physician is required to give an unlimited amount of services for a limited compensation, that the compensation is, in the great majority of cases, ridiculously inadequate and that a ruinous and pernicious element of professional competition is introduced between physicians

If fraternal organizations will select physicians by competitive examination or on account of demonstrated ability instead of through political or personal influence, if they will so arrange their plan of compensation that the physician is paid in proportion to the amount and value of services rendered and if they will fix this compensation at an adequate and proper figure then a fraternal organization will have as much right to employ a physician to attend its members as a corporation has to employ a surgeon to examine its employés The fact should be clearly kept in mind that the pernicious feature of lodge and contract practice is not in the fact that a contract exists with the lodge, but that the contract with the lodge is unfair to all parties concerned, and that under it it is impossible for the patient to secure the kind of professional services to which he is entitled

Dr Reed Announces His Views on Public Health

Dr Charles A L Reed of Cincinnati, in response to a petition from Republican electors of Ohio, has consented to become a candidate for United States Senator from Ohio At a dinner tendered him at Cincinnati, July 15, Dr Reed announced his views on various questions, of public interest among them being the following statement regarding pure food and drugs

> My long years of identification with the agitation that preceded the passage of the national law to insure pure food and drugs to the American people must be accepted as an earnest of my intention to continue my support of the measure, whether I am in or out of Congress It must not be forgotten that the opposition to this beneficent legislation came from powerfully capitalized interests engaged, as many of them are yet engaged, in the manufacture of fraudulent products now hardly less fraudulent because they carry labels that are meaningless to all but a few In this and many other particulars the law should be strengthened, while it should at all times be protected from that specious form of amendment which while assuming to strengthen is really intended to weaken if not destroy its force—a form of amendment with which we became all too familiar during the efforts to secure the enactment of the legislation

On the organization of a national department of public health, Dr Reed was equally emphatic He said

> The greatest asset of the people is their productive energy Its general conservation can be effected only by the general conservation of the public health The importance of this fact can be imagined when it is remembered that the loss to the American people from preventable diseases—entirely preventable diseases such, for instance, as consumption and typhoid fever, amounts to billions of dollars annually The existing national agencies for the correction of this condition are to day insufficient in numbers, inadequate in powers, and scattered over the various department of the government, they lack organization and effectiveness In view of this fact I have for years advocated and now advocate the line of action expressed in the present Ohio Republican platform and submitted with Secretary Taft's approval to the Chicago convention, by which it was reaffirmed in general terms to the effect that all existing national public health agencies ought to be organized into a single national public health department

Tennessee Democratic Convention Adopts Health Planks

The Tennessee State Democratic Convention, which recently met in Nashville, adopted as one of its planks the following

> We favor the consideration and strict enforcement of the pure food and drug law of 1907, and to properly protect the people from misbranded food produce and the deleterious effects thereof we favor any additional legislation and sufficient appropriation to equip properly and scientifically a state pure food and drug laboratory

The following plank regarding the work of the State Board of Health and the prevention of tuberculosis was also adopted

> We heartily approve and commend the efforts of the municipal and county officials and physicians of the state to prevent the spread of tuberculosis and pledge ourselves to cooperate in this important and necessary work We further favor the building of a hospital for consumptives at the main prison which will separate them from healthy convicts so as to prevent the spread of consumption among the inmates of our state prison We endorse the efforts of the State Board of Health to prevent epidemics and the spread of communicable diseases, and favor all necessary appropriations to do the work

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR JOHN H BLACKBURN, DIRECTOR
Bowling Green, Kentucky

The second year of the course of postgraduate study begins the first week in September In order that the course may be as uniform as possible all societies expecting to hold weekly meetings should plan to begin the work at this time Notify the director at once how many outlines will be required, and whether they are desired in blank form or printed for the individual society. In this way the topics may be assigned, and the society in working order at the beginning of the study year.

Only ten months are included in the outline for the second year, so that each society may provide for a two months' vacation during the year.

The remaining portion of the program for the first year will appear in THE JOURNAL during the next three weeks in order that its publication may be completed before the second year's course begins. During the coming year the weekly programs will be published two weeks in advance in order to allow more time for preparation.

Eleventh Month.

THIRD WEEKLY MEETING.

Movable Kidney.

Etiology: Sex, age, right side. Emaciation, multiple pregnancies, lacing, traumatism, renal tumors. Enteroptosis.

Diagnosis: General symptoms. Dietl's crisis. Physical examination. Movable kidney, floating kidney. Differentiate from tumor of gall bladder, from wandering spleen, from ovarian or intestinal tumors. Differentiate Dietl's crisis from renal, hepatic or intestinal colic, appendicitis, acute obstruction of bowel.

Acute Nephritis.

Pathology: Gross changes slight or extreme. Microscopic changes (a) in glomerulus, (b) in tubular epithelium, (c) interstitial changes.

Symptoms: Onset, chill, fever, pain, gastric disturbance, dropsy and puffiness, convulsions. Urine: quantity, specific gravity, color, reaction, albumin, microscopic examination. General symptoms: Edema, ascites, hydrothorax, hydropericardium, pulse and heart, blood, uremic manifestations. Variations in clinical course. Duration, terminations.

Chronic Parenchymatous Nephritis.

Definition and Synonyms.

Etiology: Age and sex. Secondary to acute nephritis; alcoholic and malt liquors, association with amyloid disease in syphilis, tuberculosis and chronic suppurations.

Pathology: Gross and microscopic changes in (a) large white kidney, (b) small white kidney, (c) kidney of chronic hemorrhagic nephritis.

Treatment: Dietetic, eliminative. Anemia, heart and pulse. Dropsy. Diuretics.

FOURTH WEEKLY MEETING.

Albuminuria.

Etiology.

1. Lesions of urinary organs, acute and chronic nephritis, renal degenerations and tumors, suppuration in pelvis, ureter and bladder, toxemias, scarlet fever and gout.
2. Slight or undemonstrable lesions. (a) Functional, physiological, after eating, exertion, violent emotions, bath. (b) Cyclic, age, associated conditions. (c) Febrile. (d) Hemic changes, purpura, syphilis, leukemia, etc. (e) Neurotic. (f) Orthostatic.

Prognosis: Bearing of cause, age, arterial tension, casts, general condition, influence of digestion.

Chronic Interstitial Nephritis.

Pathology: Gross changes, size, weight, capsule, surface, color, section. Microscopic changes: (a) increase in fibrous elements, (b) glomerular atrophy, (c) changes in tubules. Associated pathology, arterial, cardiac. Discuss fully.

Symptoms: Gradual insidious onset. Development of uremic symptoms, dyspnea, loss of flesh.

Urinary System: Urine quantity, specific gravity, albumin, casts, blood cells.

Circulatory System: Physical examination, cardiac hypertrophy, high tension pulse. Freezing point of blood. Symptoms of broken compensation later.

Respiratory System: Epistaxis, edema of larynx, hydrothorax. Dyspnea, cardiac or uremic, nocturnal. Bronchitis and edema of lungs.

Gastrointestinal disorders.

Nervous System: Headache, drowsiness, stupor, convulsions. Meningitis and apoplexy, "shifting paralyses," "dead finger."

Special Senses: Retinitis, amblyopia, amaurosis. Tinnitus, deafness, vertigo.

Nephritic Colic.

Diagnosis: Onset of pain, character, radiation, tenderness. General symptoms. Duration and terminations. Differentiate from biliary colic, intestinal colic, appendicitis.

Treatment: Heat, locally, internally, baths. Posture. Physiologic and therapeutic effects of morphia, chloroform.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CALIFORNIA State Board of Medical Examiners, Cooper Medical College, San Francisco, August 4-6. Secretary, Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

NEBRASKA State Board of Health, State Capitol Building, Lincoln, August 5-6. Secretary, Dr. E. J. C. Sward, Oakland.

Nebraska May Report.

Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, May 27-28, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 71, of whom 63 passed and 8 failed. Twenty-eight reciprocal licenses were issued at this *examination. The following* colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1900)	78.1
Northwestern Univ. Med. School	(1908)	85.8
Ensworth Med. Coll.	(1908)	81.7
Nebraska School of Med.	(1908)	76.6
Creighton Med. Coll.	(1908)	76.3, 79.1, 79.7, 79.6, 80.2, 80.2, 80.6, 81, 81.2, 82.6, 83.1, 84.1, 83.5, 84.6, 85.2, 85.3, 86.2, 86.2, 86.7, 86.8, 87.1, 87.3, 87.6, 88.3, 89.6
University of Nebraska	(1908)	79.1, 79.6, 80.2, 81.7, 82.1, 82.1, 82.2, 82.2, 84.2, 84.2, 83.7, 83.7, 83.7, 84.1, 84.1, 85.8, 85, 86.6, 86.6, 87.8, 89.3, 91.3, 91.7
Lincoln Med. Coll.	(1908)	78.8, 79.7, 81.7, 83.1, 83.2, 83.5, 84.6, 84.5, 84.6, 85.2, 86

FAILED.

College.	Year Grad.	Per Cent.
Creighton Medical College	(1907) 59.2; (1908)	63.5, 67.7*, 71.2
Nebraska School of Med.	(1907) 58; (1908)	68.2
Meharry Med. Coll.	(1908)	72.1
Western Med. Coll., London, Ontario	(1906)	69.3

LICENSED THROUGH RECIPROCITY.

College	Year grad.	Reciprocity with
University of California	(1865)	Missouri
Howard University, Washington	(1895)	Iowa
Northwestern Univ. Med. School	(1894) Iowa; (1907)	Illinois
Hahnemann Med. Coll. and Hosp., Chicago	(1904)	Illinois
Rush Med. Coll.	(1906)	Illinois
Central Med. Coll., St. Joseph	(1900) Missouri; (1902) (1904)	Kansas
Keokuk Med. Coll.	(1891)	Iowa
Keokuk Med. Coll., Coll. of P. & S.	(1900) (1904)	Iowa
University of Iowa	(1895) (1906) (1907)	Iowa
Sioux City Med. Coll.	(1907)	Iowa
Kentucky School of Med.	(1904)	Iowa
Johns Hopkins Med. School	(1905)	Maryland
Coll. of P. & S., Baltimore	(1880)	Kansas
University of Minnesota	(1906)	Minnesota
Marion Sims Coll. of Med.	(1897)	Iowa
Ensworth Central Med. Coll.	(1907)	Kansas
Kansas City Med. Coll.	(1904)	Kansas
Kansas City Hahnemann Med. Coll.	(1903)	Kansas
St. Louis University	(1906)	Illinois
Creighton Med. Coll.	(1907)	Iowa
University of Nebraska	(1903)	Iowa
University of Pennsylvania	(1870)	Missouri

* Second examination.

Delaware June Report.

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, June 16-18, 1908. The number of subjects examined in was 10; total questions asked, 100; percentage required, 75. The total number of candidates examined was 7, all of whom passed. Two reciprocal licenses were issued at this examination. The following colleges were represented

PASSED.

College	Year. Grad	Per Cent.
University of Maryland (1888) 80 4;	(1905)	84 7
University of Pennsylvania	(1908)	91 6
Jefferson Med Coll	(1906)	81 2
Hahnemann Med Coll Philadelphia.	(1904)	89
University Coll of Med, Richmond.	(1908)	86 7, 90 7

LICENSED THROUGH RECIPROCITY.

College	Year grad	Reciprocity with
University of Naples	(1899)	Maine
Jefferson Med Coll.	(1907)	Maryland

Minnesota June Report.

Dr W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, June 10 12, 1908. The number of subjects examined in was 17; total number of questions asked, 105; percentage required to pass, 75 The total number of candidates examined was 61, of whom 49 passed and 12 failed. Fifteen reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College	Year. Grad	Per Cent.
Northwestern Univ. Med School	(1908)	80 7, 87 9
Hamline University (1906) 76 2:	(1908)	75 2, 77 4, 78 7, 79 2, 79 3 80, 81 5, 81 8 82, 82 2, 82 3, 82 7, 83 1, 85 2, 85 4, 86 1.
University of Minnesota (1907) 78 6;	(1908)	75 5 76 76 9 78 1, 78 3, 78 8, 78 8, 79 4, 79 4, 79 8, 80 5, 81, 81, 81, 81 2, 82, 82 1, 82 1, 82 3 84 84 1, 84 1, 84 4, 84 7, 85 4, 85 7
University of Pennsylvania	(1908)	80 8 84 5
University of Catania, Italy.	(1904)	78

FAILED

College	Year. Grad	Per Cent.
Chicago Coll of Med and Surg	(1905)	67 6
Hamline University (1907) 65 7;	(1908)	63, 60 7, 74 1, 73 5, 73 9, 74 3
University of Minnesota	(1908)	67 6, 70 1, 71 4, 72 9

LICENSED THROUGH RECIPROCITY.

College	Year grad	Reciprocity with
College of P and S, Chicago	(1893) (1904)	Wisconsin
Rush Med Coll	(1904) (1906) (1906)	Illinois
Northwestern Univ Med School	(1904) (1907)	Illinois
American Coll of Med and Surg	(1905)	Illinois
University of Iowa	(1888)	Iowa
College of P and S, Baltimore	(1885)	New Jersey
University of Michigan	(1895)	Wisconsin
Barnes Med Coll	(1904)	Illinois
University Med Coll New York City	(1892)	New Jersey
Eclectic Med Inst, Cincinnati	(1903)	Illinois
University of Pennsylvania	(1904)	Wisconsin

Marriages

Leon Gottschalk, M D, to Miss Mary Glenney, both of Chester, Pa, July 14.

John D Bear, M D, Elkton, Va, to Miss Lillian Orear, at Clearbrook, Va, July 15

William H Mott, M D, to Miss Mela Reckmeyer, both of Farmington, Iowa, July 9.

Cecil M. Jack, M D, Decatur, Ill, to Miss Charlotte Nelson of Bloomington, Ill, June 18

Milford W Rozzell, M D, Mayfield, Ky., to Mrs Kerr-McCord of Womac, Ill, July 16

James T Black, M D. Elroy, Texas, to Miss Allie May Wideman of Austin, Texas, July 8

Elmer Baker, M D Humboldt, Iowa, to Miss Virginia Bell York of Cedar Rapids, Iowa, June 16

Robert G. Reynolds, M D, Palo Alto, Cal, to Miss Valley Perrine, at Vienna, Austria, July 17.

Benton Noble Colver M D, to Miss Agnes Grace Kellogg, both of Battle Creek, Mich, July 14

Samuel James Crowe, M D, Baltimore, to Miss Susie Childs Barrow of Athens, Ga, June 29.

Bert Alfred Bowers, M D Granville, Iowa, to Miss Abrahana Vanden Burg of Alton, Iowa, July 22

Melville C. K Little, M D, East Carroll, Ill, to Miss Lucille Harrer of Niles Center, Ill, June 27.

Hermann Charles [illegible] M D, Hammond, Ind, to Miss Eunice Kellogg Costello of Chicago, June 24

Charles Appel Howland, M D, Fall River Mass, to Miss Elsa Lindenkohl of Washington, D C, July 8

Charles S Grayson, M D, High Point, N. C, to Miss Bertha Crawford of McDowell County, June 25

Edward Sylvester Norton, M D, Brooklyn, N. Y., to Miss Mary Winters Golden of West Long Branch, N. J., July 1.

Deaths

Nathan Monroe Dodson, M.D. Rock Island (Ill) Medical College (now Keokuk, Iowa, Medical College), 1850; M.D. ad eundem, Rush Medical College Chicago, 1896; a member of the State Medical Society of Wisconsin and its president from 1883 to 1884; for many years a member of the American Medical Association and of the Daniel Brainerd Medical Society; for nearly thirty years superintendent of the public schools of Berlin, Wis.; and actively interested in the educational affairs of the state; a practitioner of Berlin for nearly fifty seven years; died at his home, July 19, from cerebral thrombosis, aged 81.

DeWitt Clinton Beebe, M.D. Albany (N. Y.) Medical College, 1863; a member of the State Medical Society of Wisconsin; one of the most prominent citizens and physicians of western Wisconsin; surgeon of the Fourth New York Volunteer Cavalry during the Civil War; major of Sparta in 1904 and 1905; and postmaster from 1906 to the time of his death; died at his home July 4, from myocarditis, complicated with acute nephritis, after an illness of one month, aged 70.

William Elmer, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1864; a member of the American Medical Association; once president of the Medical Society of New Jersey; a member of the American Academy of Medicine; president of the staff and medical director of Mercer Hospital, Trenton, N J.; one of the leading practitioners of that city; died in Atlantic City, N. J., July 18, after an illness of ten months aged 67.

Charles Edward Swan, M.D. Medical School of Maine, Medical Department of Bowdoin College, Brunswick, 1847; said to have been the oldest practitioner of Maine; a member of the board of overseers of Bowdoin College from 1870 to 1874, and a trustee of the college for a year thereafter; mayor of Calais in 1897 and 1898; a member of the American Academy of Medicine; and of the Council of Physicians and Surgeons of New Brunswick: died at his home in Calais, July 13, aged 86

Washington Hodges Timmerman, M.D. Medical College of the State of South Carolina, Charleston, 1854, a Confederate veteran; member of the state legislature in 1882 and 1890; state senator in 1891 and 1892; a year later lieutenant-governor of the state, and from 1896 to 1900 state treasurer; prominent as a financier and a citizen; died at his home in Batesburg, July 14, from pneumonia, after a brief illness, aged 76.

Frank D. Kraft, M.D. Homeopathic Medical College, St. Louis 1886 of Cleveland, Ohio; for twenty years editor of the *American Physician*; and for three years secretary of the American Institute of Homeopathy; professor of materia medica in the Cleveland Homeopathic Medical School; died at the home of his brother in St Louis, July 19, from heart disease, after an illness of a few days, aged 57.

Allan Clarke Hutton, M.D. College of Physicians and Surgeons in the City of New York. 1872; an invalid from Pott's disease nearly all his life; for many years treasurer of the New Jersey Microscopic Society, and a resident of Brunswick, N. J.,; died at the home of his brother in Twilight Park, Haines Falls, N. Y., July 7, from myocarditis, after a prolonged illness, aged 66

William Walter Fletcher, M.D. New York University Medical College, New York City, 1883, a member of the American Medical Association: and a specialist on diseases of the eye, ear, nose and throat; of Williamsport, Pa; councilman and chairman of the common council for four years; died at his home in that city, July 12, from diabetes, after a prolonged illness, aged 53.

Simeon Belknap, M.D. Vermont Academy of Medicine, Castleton, 1860: United States pension examining surgeon at Niles, Mich: a member of the Kalamazoo Academy of Medicine and American Association of Railway Surgeons; and local surgeon for the railways centering in Niles died suddenly at his home July 14, from angina pectoris, aged 70.

Edward B. McGraw, M.D. Western Pennsylvania Medical College, Pittsburg. 1894; of Pittsburg; a member of the American Medical Association; surgeon to the Passavant Hospital, Pittsburg, and obstetrician to the Roselia Foundling Asylum and Maternity Hospital; was instantly killed in an automobile accident, in Pittsburg, July 21, aged 37.

William G. Winner, M.D. University of Pennsylvania. Department of Medicine, Philadelphia, 1884; a member of the American Medical Association; surgeon to the Delaware Hospital, Throat, Nose and Ear Dispensary; and a well-known specialist of Wilmington, Del.; died at his home, July 10, from heart disease, aged 51.

Frederick Fliedner, M.D. University of Wooster, Medical Department, Cleveland, Ohio, 1872; coroner of Cuyahoga County, Ohio. from 1876 to 1878; and a member of the board of health of Cleveland from 1883 to 1886; died at his home in that city. July 12, from tuberculosis, after an illness of four months, aged 64.

George Ewing Stuart, M.D. Medico-Chirurgical College of Philadelphia. 1898; a specialist on diseases of the eye; of Harrisburg, Pa.; for several years a member of the staff of the Pittsburg Eye and Ear Hospital; died in Harrisburg, June 17, from cerebral hemorrhage, after an illness of fifteen hours, aged 52.

John Francis Hincks, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1906; afterward an interne in the State Hospital for the Insane, Jackson; of Manistee, Mich.; died in Long Beach, Cal., June 21, from tuberculosis of the lungs, after an illness of a year and a half, aged 25.

Calvin Carter, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1891; gold medalist of his class; a member of the American Medical Association, and secretary of the Franklin County (Ind.) Medical Association in 1906; died at his home in Brookville, from nephritis, aged 51.

Frank Catlin Greene, M.D. Jefferson Medical College, 1880; University of Heidelberg, Germany. 1883; a member of the American Medical Association; president and later treasurer of Truax, Greene and Company, Chicago; died at his home in Chicago, July 27, after an illness of one year, aged 51.

Benjamin Letcher, M.D. College of Physicians and Surgeons in the City of New York, 1856; at one time superintendent of the Western Kentucky Asylum for the Insane, Hopkinsville; died at his home in Henderson, Ky., July 13, from cerebral hemorrhage. after an illness of six months, aged 76.

Alpheus Baker Morrill, M.D. Hahnemann Medical College and Hospital. Philadelphia, 1894; of Concord, N. H.; died in the Margaret Pillsbury Hospital in that city, July 13, from the result of injuries received in altercation in a saloon in Hooksett, N. H., a fortnight before, aged 41.

Levi M. Hanna, M.D. Miami Medical College, Cincinnati, 1871; a member of the Indiana State Medical Association; a veteran of the Civil War; for more than twenty-five years a member of the U. S. pension examining board at Greencastle; died at his home in that city, July 16.

Bernhard Hesse, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1860; a member of the school board of Saginaw, Mich., for many years; one of the oldest practitioners of the city; died suddenly at his home, July 14, from heart disease, aged 73.

George W. Alexander, M.D. Louisville (Ky.) Medical College. 1881; a member of the American Medical Association; died recently at his home in Chula, Mo., from cerebral hemorrhage, after an illness of six hours, aged 52, and was buried at Chillicothe, Mo., June 23.

John William Thatcher, M.D. Kentucky School of Medicine, Louisville. 1869; of Marion, Ohio; for several years editor of the Marion Mirror; died in the Central Emergency Hospital in Marion. July 16, from paralysis. after an invalidism of seven years, aged 78.

James M. O'Neill, M.D. College of Physicians and Surgeons, Dublin, Ireland, 1874; of Buffalo, N. Y.; a member of the American Medical Association; died at his home, July 15, from disease of the stomach, five days after a surgical operation, aged 56.

Daniel Newcomb, M.D. Berkshire Medical College, Pittsfield, Mass., 1852; Chicago Medical College, 1870; first "Free State" registrar of deeds of Atchinson County, Kan., in 1858 and 1859; died at his home near Ocean Springs, Miss., July 12, aged 79.

John D. Mulhane, M.D. College of Physicians and Surgeons, Baltimore, 1883; for many years local surgeon of the Pennsylvania System, at Steubenville, Ohio; died in the State Hospital, Athens, Ohio, July 15, from pulmonary tuberculosis, aged 50.

William F. Wiard, M.D. Chicago Medical College, 1873; sometime president of the Sacramento (Cal.) Society for Medical Improvement, died at his home in that city, July 9, from paralysis, after a prolonged period of invalidism, aged 65.

Anthony R. Boykin, M.D. New York University Medical College, New York City, 1860; a Confederate veteran; formerly a practitioner of Smithfield, Va.; died in the Confederate Soldiers' Home, Richmond, Va., July 14, aged 69.

Philip Aylett Fitzhugh, M.D. Medical Department of Hampden Sidney College, Richmond, Va., 1849; died at the home of his daughter near Machipongo, Va., July 7, from dysentery, after an illness of two weeks, aged 84.

L. F. Hyder (License Tennessee, 1889), chairman of the Carter County Court; and at one time a member of the state legislature; died at his home in Elizabethton, Tenn., July 8, from nephritis, after a long illness.

George W. Drury, M.D. Missouri Medical College, St. Louis, 1882; for twenty-five years a practitioner of Decatur, Ill.; died at his home in that city. July 10, from nephritis, after an illness of two years, aged 54.

Wesley Robbins, M.D. Indiana Eclectic College, Indianapolis, 1884; a colored practitioner of Detroit; died at his home in that city, July 13, from cerebral hemorrhage, after an illness of two weeks, aged 52.

Rody Elton Warner, M.D. Eclectic Medical Institute, Cincinnati, 1875; Western Pennsylvania Medical College, Pittsburg, 1887; died at his home in Pittsburg, July 15, after an illness of several months, aged 57.

Bryant James Smith, M.D. University of Georgia Medical Department, Augusta, 1889; fell into a well at his home, Sunnyside, near Waycross, Ga., June 24, and broke his neck, dying instantly, aged 45.

Elijah A. Lyon, M.D. Hahnemann Medical College and Hospital of Chicago, 1880; College of Physicians and Surgeons, Chicago, 1898; of Chicago; died in Ottawa, Ill., July 14, after a short illness, aged 53.

Myles J. Gahan, M.D. Texas Medical College and Hospital, Galveston, 1867; formerly of Grand Island, Neb., but for five years a resident of Omaha; died in the Omaha General Hospital, July 18, aged 65.

Alfred David Becket (Years of Practice, Ohio, 1896), of Limaville, Ohio; died at the Alliance Hospital, June 28, from septicemia, following the bite of a rat, after an illness of two weeks, aged 53.

Alvin G. Fritsche, M.D. Rush Medical College, Chicago, 1901; of Black Hawk, Wis.; died at the Augustana Hospital, Chicago, July 13, five weeks after an operation for appendicitis, aged 30.

Bela St. John, M.D. Eclectic Medical College of the City of New York, 1882; died at his home in Torrington, Conn., July 16, from cerebral hemorrhage, after an illness of one year, aged 80.

John B. Hughes (Examination, Maine, 1895), an eclectic practitioner of Portland, Maine; died suddenly July 12, at his summer home on Peak's Island, Maine.

Joseph B. Randleson, M.D. St. Louis Medical College. 1878; died at his home in East Galesburg, Ill., from paresis, after an illness of six years, July 18, aged 73.

John Hamilton, M.D. Detroit (Mich.) College of Medicine, 1876; died at his home in Pompeii, Mich., July 14, after an illness of ten days, aged 77.

George A. Cook (License, Rhode Island, 1895), died at his home in South Providence, R. I., July 8, after a brief illness, aged 79.

Frederick Habermehl (Years of Practice, Ohio, 1896), died at his home in Clarington, Ohio, July 8, after a prolonged illness, from paralysis, aged 73.

John S. Thomason, M.D. Atlanta (Ga.) Medical College, 1870; of Pacolet, S. C.; died in the Columbia (S. C.) Hospital, July 6, aged 58.

Grosvenor B. Cady, M.D. Physio-Medical College, Cincinnati, 1864; of Chicago; died in the Home for Incurables in that city, July 18.

Truman Nichols, M.D. New York Medical College, New York City, 1852; died at his home in Brooklyn, July 13, aged 81.

Samuel F. Teed, M.D. Physio-Medical Institute, Cincinnati, 1859; died at his home in New York City, July 6.

Society Proceedings

COMING MEETINGS

American Public Health Association, Winnipeg, Can , Aug 25 28
American Acad of Ophthal and Oto Laryng, Cleveland, Aug. 27 29.
Wyoming State Medical Society, Sheridan, Aug 28
New Mexico Medical Society Albuquerque Sept 2 3
Washington State Medical Association, Walla Walla Sept 2 4
Medical Society of the Missouri Valley, Council Bluffs Sept 3 4
Colorado State Medical Society, Denver, Sept. 8 10
Med Soc of the State of Pennsylvania, Cambridge Spgs , Sept 14 17

AMERICAN ACADEMY OF MEDICINE.

Thirty third Annual Meeting, held at Chicago, May 30 and June 1, 1908.

(Continued from page 340.)

The Place of Woman in the Modern Business World as Affecting Home Life and Marriage.

Dr **Andrew Stewart Lobingier**, Los Angeles, believed that discussion of this subject must be governed by the facts obtaining to day and not by preconceived notions of personal preference in an ideal state of society. He admitted that there were vital reasons why women were now impelled to earn a living outside the home; but how far the public employment to women interfered with their marrying, or if married, with the fulfillment of their obligations as wives and mothers, there were no reliable data to prove There were certain definite views held by some women who choose employment outside the home among which were mentioned a deep aversion to the sacrifices entailed by early married life and maternity Another class disliked the pinching economy so often necessary Still others had determined that the life of a bachelor maid was less hazardous than life with a husband, children, and four-room flat on a seventy five dollar salary. To a still greater class a desirable offer of marriage never comes He was convinced that the solution of the problem would come from the women with their subtility and keen perceptions, and that in another quarter of a century women would be adjusting themselves to the changed conditions with the result of a nobler, more secure and broader home life

Place of Women in the Modern Business World as Affecting the Health of the Race

Dr **L Duncan Bulkley**, New York, said that with the incessant desire for excitement, pleasure and dress thousands worked, often to the detriment of health, for the means of gratifying tastes and desires not laudable While many women were obliged to care for themselves, the desire to be independent urged others into business, when a little more exhibition of the qualities special to the gentler sex would tend to make home life sweeter and more attractive and the saloons relatively less alluring to men He advocated earlier bed hours, and rest during menstruation, the last of which was impracticable under the imperative call of duty and work equally at all times in the business world It was not so much the load but the pace that killed The greatest field of philanthropy in this connection lay in education regarding true hygiene and proper mode of life

Woman in the Business World, as Affecting Health and Morals

Dr **Norman Bridge**, Los Angeles contributed this paper (read by Dr McBride, of California) in which he called attention to the change in social and economic equations the result of the entrance of women into business pursuits While it was easy to urge that every woman should marry and make a home Dr Bridge asserted first, that this was manifestly impossible, and secondly, it was the woman's own affair. While the single business woman always and the pampered rich woman often failed to perpetuate the race the business woman was much the less to be blamed He did not believe that a business woman's experience unfitted her for a domestic life but rather that it enhanced her power and efficiency as a useful social unit The health of the woman in his opinion was not generally impaired by a business life, unless she worked for very low wages and under depressing conditions He denied that a business occupation led to boldness, which was a temperamental quality, or that it impaired either charm and innocency, unless by these words was meant ignorance and uselessness, which was often the real meaning carried by them Neither did he believe that a business life tended generally to immorality. A few, mainly in consequence of starvation wages, might go wrong, and many girls in grinding clerkships would act wisely in entering domestic service, thereby having easy and reputable lives and being able to save money He criticized the prevalent fad, that 'business" life, even at starvation wages, was better than a "work" life, with less physical and mental fatigue, and more comforts and money

Female Labor as a Factor in Social Life.

Dr **A L Benedict**, Buffalo, believed that many men and women were unfitted for marriage that each individual should have perfect freedom of choice, and that only considerations of propriety should be a limitation to women in selecting occupations The economic success of marriage as a vocation for women would be enlarged if, without in any way departing from the sentimental and ethical factors involved, it were generally recognized as a business, to be carefully learned and to be carried on with punctuality, intelligence *and devotion While the competition* by women in business lines involved less than one man in ten, yet it lowered the standard of wages for the male On the other hand, wages generally were at a point incommensurate with the wealth of the country. Far more important than the ordinary conception of the social influence of female labor, especially in the higher grades, was the diversion of female labor from domestic to commercial channels Domestic servants now cost about double what they did twenty years ago, so that the ideal home of the average professional and small business man could no longer exist under ordinary conditions, thus driving thousands of families into boarding houses, etc Dr Benedict concluded that the thousand female lawyers and seven thousand women physicians in the United States were only a drop in the bucket and that it was the lack of domestic servants and of domestic training that was disrupting the national home life and thereby causing a "woman's problem"

Modern Methods of Education and Their Effects on the Health of the Race.

Dr **George Howard Hoxie** Kansas City, Mo asserted that the effect of the educational methods on the home life and welfare of the American people had been that of stimulating to an abnormal degree the intellectual and nervous natures of women He did not necessarily advocate the reducing of the intellectual training but its support by adequate physical and moral development One sided development he observed affected girls rather than boys because the stern demands of life compelled young men of the working classes to leave school earlier than the young women A superintendent of a large city system had said "My observation enables me to state positively that not one pupil in ten is injured by over study compared with those who are up late hours receiving company, attending parties, and going to theaters when they should be in bed It is not school work that hurts but it is social dissipation that undermines the health of boys and girls When a child is going to school, his business is to be at school to take necessary exercise eat plain wholesome food and sleep from eight to ten hours out of every twenty four, and to be a child as long as possible without trying to ape society men and women"

Another viewpoint was the influence of educational methods on the woman teacher. Unless the woman was endowed by nature with a body stronger than the average of her sex and unless her education had been more symmetrical than the average she could stand only a few years of school teaching without breaking down Another point for consideration was the effect of nervous teachers on the health of the pupil. In Germany more men and fewer women were desired as teachers to reduce to a minimum this tendency to hysteria

Others had stated that the primary grades should be supplied with quiet and womanly women as teachers while the upper grades should have the more virile and balanced influence of men as teachers Further since teachers did not have a living wage they could not have the vacations and recreations necessary for the complete restoration of nervous energy used up by their school room activities Then there were not teachers enough to meet the needs of a more healthful method of education There should be schools good enough for the best and wealthiest and still adapted to and utilized by the worst and poorest if there was to be a preservation from classes, castes and aristocracy with its concomitant degradation and pauperism

DISCUSSION.

DR **HELEN C PUTNAM**, Providence believed that all human beings had the right to develop their best abilities in all directions for the service of society The development of women to a higher plane of education and morals than men would not solve sociologic problems There must be exactly the same training of men in order that women might select good fathers for their children She called attention to the work of the National Society for the Prevention of Social Disease which had been aided by the influence of women added to the stronger influence of men She believed that women should have a voice in the selection of the right men to hold office and of proper teachers for children in the schools She suggested the creation in the public schools of a department of hygiene in which in addition to looking after the hygiene of the school children, there should be taught home-making and the elements of biology

DR **EMMA B CULBERTSON** Boston, believed that the question of the influence of women on the future of the race was to be solved only by the impartial cooperation of both sexes, and that every man, woman, boy or girl, was entitled to the best development of their individual capabilities Admitting the presence of a certain amount of race degeneracy in America she felt that this was not most marked among the women but that there would be plenty of boys and girls of the best type if they were given the right kind of fathers A great deal of the overwork of women teachers was absolutely unnecessary and was imposed on them by the men who are head masters She believed there should be more careful selection of work for the normal school and that school matters should be kept out of politics

DR **JOHN H TRESSEL** Alliance Ohio said that the present mode of sanitation and physical culture, according to his observation had developed the girls to a greater extent than the boys This he attributed to a greater tendency to dissipation on the part of the boys, who should receive more attention to prevent this deterioration

DR **DONLEY C HAWLEY** Burlington Vt, said that the trend of thought and effort should be to fit woman for the function of wife and mother and induce her to choose the fulfillment of that function, though there were times when it was necessary for her to compete with men in many walks of life He believed that both the school system and business vocation should be so regulated that every girl might lose two, three or four days in the course of the month without any detriment to herself so far as her class standing or her standing with her employer was concerned

DR **FLORUS F LAWRENCE** Columbus, Ohio, believed the principal factor in the invasion of men's careers by women to be that business men found that women rendered more faithful service at a less price Girls should be taught that a home was something that a woman ought to desire and live for, and without which she could not live happily Without this ideal the woman could not be expected to want to make a home

DR **WARD** California, speaking from the standpoint of a teacher, did not hesitate to say that in law and medicine women generally could be relied on to stand absolutely for the highest standards in professional work, without variation or compromise while the persons who could be counted on to aid some indirect underhand and political movement to debase the profession or to get some personal advantage at the expense of the community were the men While there were men in the professions working for the loftiest ends this could not be said of all He believed that college women would be the leaders in women's work in the next generation as college men have been and were to day, the leaders among work of men

AMERICAN ORTHOPEDIC ASSOCIATION.

Twenty second Annual Meeting, held in Chicago, June 4 6, 1908

(*Continued from page 344*)

Fibrous Ankylosis of the Knee.

MR **E MUIRHEAD LITTLE**, England said that in the majority of cases of stiff knee the ankylosis is fibrous He considered the causes and the symptoms of the condition The treatment differs in its objects in the upper and lower limbs In the former, free mobility is the greatest consideration, while in the latter, a firm support to the weight of the body is the thing wanted The worst cases of fibrous ankylosis must be treated the same as bony ankylosis Excision of the joint should not be done before the age of fourteen, and even then, the epiphyseal lines should be respected Mr. Little has not found pins, nails, screws, or wires necessary in the knee He quoted some illustrative cases

When Is Bony Union Complete After Excision of the Knee?

DR. **J. T RUGH**, Philadelphia, after a review of the literature and an exhaustive consideration of all the facts, reached the following conclusions 1 Writers and operators differ as to the length of time fixation or retention apparatus should be worn after excision 2 Flexion deformity is much more likely to occur before twelve years of age, when union is fibrous or cartilaginous. 3 Bony union is more probable after this period, by reason of the increased activity on the part of osteogenic tissues in the part 4 Deposit of bone normally takes place more slowly in the epiphysis because of the histologic structure of the parts 5 Intrinsic influences may and do retard the process of healing after excision 6 Extrinsic factors also delay the ultimate bony union 7. As bony union after fracture of the shaft of a long bone is not complete for from nine months to a year, it will require nearly as much more time for completion in the epiphysis, because of structure and of intrinsic and extrinsic factors 8 During operation sufficient periosteum should be preserved to entirely cover over the line of contact of the excised parts and accurate coaptation and as nearly absolute fixation of the bone ends as possible should be secured 9 Fixation should be maintained for a period of at least a year, and probably nearly two years, after excision, to avoid the danger of flexion or other deformity

Discussion on Knee Lesions

DR **WALTER G STERN**, Cleveland, asked what had been the experience of the two readers of papers in resection for flail knee joint after infantile paralysis and for a bad position after rheumatoid arthritis He has had humiliating experiences in both classes of cases

DR **YOUNG** said that when his attention was first attracted to osteotomy above the knee for ankylosis above the knee with deformity, he did not think a great deal of it, but after having performed it on children from 12 to 14 years of age with satisfactory results he is in favor of the Ollier operation He believes that in future the opening of the knee joint will be a frequent procedure

DR. **ROBERT B OSGOOD** said that he had excised the knee in a case of what was supposed to be rheumatoid arthritis and in which the microscopic examination had seemed to make this diagnosis certain The patient has now a stiff solid knee

MR **LITTLE** said that when the case is fairly put to them, patients do not like the idea of an operation that will cause a stiff knee He has found that in infantile paralysis the bones unite well although he had one bad experience after an arthrodesis of the ankle and a subsequent arthrodesis of the knee The extra strain on the popliteal muscles produced a gangrene of the front of the foot He does not consid

Ollier's an ideal operation, because, instead of correcting a deformity, another deformity is added to that already existing

Dr Rugh said that he has excised the knee for infantile paralysis in a woman of 48 years He has had no experience with excision after arthritis deformans. He believes in promising the patient bony union after a period of about two years, although fibrous union may occur in from four to six weeks

Preliminary Report of New Operation for Arthritis Deformans of the Hip.

Dr Fred H Albee described this operation, and said that firm ankylosis was produced with the leg in a corrected position He reported five successful cases All the patients had been incapacitated for work for some months or years One does not require any elevation, while others are wearing up to half an inch on the heel of the affected leg In every case the pain has been entirely relieved

DISCUSSION.

Dr Arnold said that he had seen one of the patients previously and operated In the *x* ray taken at the time he could not distinguish any osteophytes The operation was at first successful, but later, walking upstairs made man tip forward He then drifted away from Dr Arnold

Dr Young said that after excision the joint is not so stable as after Dr Albee's operation, although the motion is good

Dr Turner thinks that it would be of great value to the association if Dr. Albee would report on the condition of these patients at the next annual meeting

Dr Painter said that the Murphy operation does not give enough motion to be of much value, excision is fruitless and osteotomy unsatisfactory when much deformity was present

The Question of Balance and a New Form of Shoemakers' Last.

Dr Ansel G Cook, Hartford, Conn, first reported an elementary study of the balance of the human body and its relation to the balance of shoes, including rules for design ing or for judging of the efficiency of shoes His second paper dealt with extension of the usefulness of plaster of Paris in enabling the orthopedic surgeon in a measure to escape from the thraldom of the shoemaker

DISCUSSION.

Dr J. Ridlon, Chicago, said that instead of using a board to step the foot on when making the cast, he uses a piece of sheet steel, bent according to the height of the heel needed for each particular foot

Dr Riely said that he uses aluminum for the same purpose He has found that the use of a bandage around the plate and the foot has tended to flatten the arch and spread the heel.

The Operative Treatment of Bony Ankylosis of the Knee, Hip, and Elbow Joints

Dr J B Murphy Chicago, described his well known method of preventing bony union after operations for ankylosis and described a process of injection by which he renders joints immune to infection The solution injected consists of formalin and glycerin In every case prepared in this way there was an entire absence of inflammatory reaction

DISCUSSION

Dr Young asked why Dr Murphy removes the lateral ligaments entirely He thinks that if they could be saved, it would be an advance in the treatment of the condition

Dr De Forest Willard Philadelphia, also thinks that if both these ligaments were removed the joint would not be strong enough to support the body satisfactorily

Dr J Ridlon, Chicago asked whether or not Dr Murphy's results are usually good in cases of gonorrheal inflammation of the joint

Dr Davis said that the crucial test of the operation is in the knee joint, and he desired to see a perfectly good result in this joint He operated on a patient according to Dr Murphy's procedure, but instead of transverse division of the patella he used lateral incisions turning in lateral flaps He got too much motion; so he excised less in the next case, getting a better result In his next cases he excised still less, and did not get enough motion He said that he could not succeed in striking the happy medium He does not see the necessity for removing the lateral ligaments

Dr V. P. Gibney, New York, asked about the use of formalin in complete ankylosis of the joints with bony union He thinks Dr Murphy right in taking out all that can be taken and covering the bone completely with the flaps

Dr Murphy said that he is convinced that he can produce a practically perfect, freely movable joint, because he has done so He does not care to leave the lateral ligaments, and he feels that what he did leave was enough to insure good motion In cases of gonorrheal infection he does not follow out a different procedure from that employed in other cases of bony ankylosis It is only necessary to avoid getting the joint infected.

(*To be continued*)

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Twenty-seventh Annual Meeting, held in Boston, June 9-10, 1908

The President, Dr George W. Gay, Newton, in the Chair

Visits to Hospitals.

The morning of the first day was devoted to visits to the Boston hospitals and clinical laboratories

Value of Health Inspection.

Dr Lyman A Jones, North Adams, declared that local health boards throughout the state are, almost without exception, inconsistent and inefficient, maintained that not more than half the men composing health boards were physicians, but were men with political influence who sought rather private interests than the public good, and recommended that more power be given to the state sanitary committee

Treatment of Fractures as Affected by the X-Ray.

Dr Frederick J Cotton, Boston, stated that the greatest value of the *x* ray was in the open treatment of fractures, particularly old cases due to imperfect original results, with deformity and disability He called attention to the fact that the younger generation of physicians was liable to depend too much on the ray, and that consequently the results in large hospitals in routine cases are not so good as they were ten years ago Roughly speaking, by the use of the *x* ray, fractures had resolved themselves into as common types as luxations Fracture of the elbow was less common now than formerly, while fractures of the head of the radius and scaphoid had become common The *x* ray had not only taught us what to look for, but how to look The idea that it was not safe to set a fracture without a skiagraph, Dr Cotton said, was nonsense, and was often impracticable In certain fractures of the foot, of the hip within the capsule, and of crushed fractures of the hand, a skiagraph was necessary In dislocations with fractures, Cotton advised reduction of the dislocation and then the application of the ray A man who was unable to set a fracture without the *x* ray probably could not set it at all He commended the open treatment of certain kinds of fractures

DISCUSSION.

Dr Fred B Lund, Boston, spoke favorably of the open method of reduction, and mentioned a case of ununited fracture of the femur treated by this method, with excellent results He said that these cases should only be treated by the experienced surgeon

Dr Homer Gage Worcester, considered that treatment of fractures at present was not so satisfactory as formerly, and agreed that too great dependence was placed on the *x* ray and too little on manipulation

Fracture of the Lower Epiphysis of the Tibia.

Dr Frederick S Coolidge, Pittsfield, reported the case of a patient 41 years old who was 6 years old at the time of the fracture The result was perfect for a year, then a lump developed in the region of the external malleolus A bruc was worn for four years, but the leg continued to shorten proportionately until the patient was 16, the total shortening being 1½ inches. The fibula continued to grow normally. X ray examination showed that the tibia had not grown since the accident, and that the lump was the lower end of the growing fibula.

DISCUSSION.

Dr. Charles L. Scudder, Boston, said that cases of injury to the lower epiphysis of the tibia were few, but that the *x* ray was disclosing more. The importance of the accident was due to the deformity and shortening; the contiguity of the joint and the fact that the line of weight bearing was affected. The causes were displacement of the epiphysis or crushing or injury to the part. In the Massachusetts General Hospital fifteen cases were found by means of skiagraphs. In fourteen of these the ages of the patients ranged from 9 to 17 years. Dr. Scudder said that cessation of growth was generally believed to be due to disturbance of circulation. Shortening was greatest when the accident occurred at about 6 or 7 years of age than at 16, the former age being the period of more active growth. He emphasized the importance of accuracy of diagnosis.

Stiff and Painful Shoulders; Subdeltoid or Subacromial Bursitis.

Dr. Ernest A. Codman, Boston, said that outside of definite fractures at the shoulder, 90 per cent. of the disabilities come under the title of the paper. Cases were divided into three classes. The acute type, with inflammation and tenderness; the adhesive type, with adhesion of the surfaces of the bursa, and the chronic type, presenting some interference with motion of bursa and difficulty in elevating the arm. They might be infectious, tuberculous, gonorrheic or idiopathic, following influenza or injury. The so called "glass arm" of the baseball pitcher was an example. The bursa was about the size of the palm of the hand. Subacromial is the better name, as it is nearer that situation. Differential diagnosis must be made from muscular rheumatism and neuritis. The pain in this bursitis was either at the insertion of the deltoid or at the point of the shoulder. Prognosis was good, as almost all patients recover. Treatment might be necessary for from two to six months, and might be either exercise massage and Zanden apparatus or by breaking adhesions under anesthesia. The elevated arm splint was useful, but was hard on the surgeon and looked uncomfortable to patient's friends. The best treatment was to open bursa and break up the adhesions. This usually resulted favorably in from four to six weeks. This disease was the periarticular arthritis of twenty five years ago.

DISCUSSION.

Dr. Douglas Graham, Boston, treated these cases with massage for one half hour every other day, which in the acute cases was better than longer and more frequent sittings. He required patients to lift weights and to suspend themselves by the hands. His use of strong faradic current at the point of pain for short periods had relieved that symptom in some of his cases.

Radium Bromid, Rather than Operation or X-Rays in Early Treatment of Superficial Cancers.

Dr. Francis H. Williams, Boston, asserted that Dr. Rollins of Boston was the first to suggest that emanations from *radium might have therapeutic value*. Dr. Williams used from 0.050 to 0.100 of pure radium bromid in a capsule covered by rubber tissue. He described his technic, which consisted of permitting the capsule to rest against the diseased area for from half a minute to three minutes from one to three times a week. He used a fresh rubber capsule at each application. The treatments were harmless. Dr. Williams had used the method in both hospital and private work. It was more valuable on small surfaces, but would not entirely exclude other methods of treatment. Improvement was noticed in two or three weeks. Among the conditions benefited he enumerated lupus erythematosus, lupus vulgaris, keloid, chronic ulcer, epithelioma, rodent ulcer, acne, adenoids and inflammation of small glands. He reported one case of Paget's disease not helped by this form of treatment and some cases of epithelioma and rodent ulcer. He advised caution in the use of this treatment in old and feeble persons.

DISCUSSION.

Dr. Herbert L. Burrell, Boston, said that he had come prepared to offer a protest as a surgeon to the dictum of nonsurgical intervention, but was now a convert, though he believed that radium could replace the knife in certain selected cases *only*.

Dr. George W. Gay, Boston, spoke of a case of his treated by Dr. Williams. The lesion was a small epithelioma of the nose. A three-minute sitting once a week for five weeks entirely removed the growth and left the skin clear. There was no pain and only slight itching.

Dr. Ernest Codman, Boston, cautioned against too great enthusiasm in the use of this agent, and reminded the society that the same apparently excellent results were announced at the initial use of the *x* ray. He felt on the whole that the use of the *x* ray had done more harm than good, though it was undoubtedly of value in cases of skin cancer. He had seen two cases of epithelioma of tongue, in both of which valuable time had been lost by the use of the *x*-ray, and one patient was beyond all hope of aid from operative intervention. Growths such as mentioned by Dr. Williams were probably helped by radium, but in growths below the skin Dr. Codman considered the method unsafe.

Dr. Williams said that reason must dictate the treatment. His experience was based on treatment for four and a half years with radium.

X-Ray Plates of Fractures from the Massachusetts General Hospital.

Dr. Channing C. Simmons, Boston, introduced the exhibit and spoke of the necessity of employing two views in all fractures, an anteroposterior and a lateral view. Attention was called to the following unusual cases: Fracture of the head of the radius, fracture of the scaphoid bone of the wrist and dislocation of the semilunar bone of the wrist.

Use of Fresh Animal Sera in Hemorrhagic Conditions.

Dr. Timothy Leary, Boston, cited cases of the successful clinical use of animal sera, and showed that aside from the constitutional hemic effect, they acted as direct cardiac stimulants. Cases were yet too few to draw conclusions as to the value of sera.

DISCUSSION.

Dr. Samuel W. Goddard, Brockton, mentioned eight cases occurring during the last four months in which sera had been used at Carney Hospital in patients with various degrees of jaundice, and there had been no hemorrhage following operation in such cases since. All patients with jaundice received it at above hospital previous to operation.

Dr. Ernest W. Cushing, Boston, reported one case of extrauterine pregnancy with severe hemorrhage, in which administration of serum was apparently followed by great benefit.

Some Aspects of Gonorrhea.

Dr. Frederick Forchheimer, Cincinnati, in the Shattuck lecture, dealt mostly with statistics of the prevalence of this disease. The Prussian army was least affected, with a rate of 1.23 per cent.; the United States Army was most seriously affected, its ratio being 8.95 per cent.; the British army stood next to the United States, with a ratio of 5.94 per cent.; the United States Navy's ratio was 3.88 per cent. In civil life its frequency was least among laborers, next among the highest class, and highest among the middle classes. In the armies of Europe it was gradually diminishing, as shown by figures from 1879 to 1903. In the United States Army, in ten years from 1897 to 1906, there were 70,000 cases. Figures showed that the effect of a canteen or no canteen were not responsible for an increase found in the United States Army of late years. He felt that the European figures of its prevalence in civil life were overestimated, the ratio being given from 48 to 80 per cent. of all men. In one service of the Massachusetts General Hospital but 20 per cent. of the hostories showed its presence. He agreed with Erb that the morbidity of the disease was diminishing. The United States Army and Navy were exceptions to this rule. About one-half of all adult males contract gonorrhea. The cause of "one child matrimony" he believed to be prevention of conception rather than gonorrhea. Much could be done to stamp out the disease. Many lurid statements as to its grave dangers were overdrawn and due to overenthusiasm of gynecologic and other specialists. The laity could aid in its extinction, and the physician could disseminate valuable information.

Growth and Development of Major Surgery in the Smaller Cities.

Dr. Charles H. Richardson, Pittsfield, said that during the last ten years major surgery had been done outside of the large cities with much success. The advent of the modern hospital in these smaller cities had induced men to operate, and the results equaled those anywhere. He advised no man to attempt such work without due preparation. He would approve of a law which prohibited operating by all who have not had from three to five years of postgraduate training. The private hospitals had come to stay, but he believed it was the men who made the hospitals and not the hospitals which made the men. St. Mary's Hospital, Rochester, Minn., was an example. He advised that the surgical staff of hospitals be given opportunity to advance, and spoke a word for unanimity of action by hospital staffs in the interest of the hospitals and deplored the existence of jealousies.

DISCUSSION.

Dr. Halbert G. Stetson, Greenfield, urged that a greater freedom be allowed the surgeon by the general practitioner and a further attempt be made to educate the latter to the value of early operative intervention. In this particular only is the surgeon handicapped in the smaller towns and this is the principal reason for the less favorable results there.

Necessity for Immediate Treatment in Serious Ocular Conditions Frequently First Seen by the General Practitioner.

Dr. Frederick Cheney, Boston, spoke of acute glaucoma and ophthalmia neonatorum only. Severe cases of glaucoma were not usually overlooked by the practitioner and the use of a strong myotic until the effect was produced was advised until the oculist was called, when, as a rule, operation was the treatment. The question of ophthalmia neonatorum was a very important one. New cases usually ended in recovery if seen early and treated properly. In Massachusetts the results were better than in other states, due to the lesser prevalence of the midwife. Last year 171 cases were treated at Massachusetts Charitable Eye and Ear Infirmary. The importance of early treatment was great. He recommended the instillation of 4 or 5 drops of 25 per cent. argyrol, every four hours, and states that the newer silver salts were less irritating than silver nitrate. Often a 3 per cent. boracic acid solution used every twenty minutes prevented an attack by simple cleanliness. A simple ointment on the lids prevented adhesion and soothed the irritation due to frequent irrigation. The usual etiologic factor was the gonococcus. One value of hospital treatment was the isolation of the patient from other members of the family.

DISCUSSION.

Dr. David Harrower, Jr., Worcester, mentioned the value of asepsis in fresh perforating wounds of the eye. One large firm has provided a special room where, after such an accident, an attendant washed out the eye with a solution, applied a sterile pad, and then sent the patient to an oculist. This prevented many complications. He mentioned as an effective emergency treatment for a burn of the eye the application of an oily solution to the affected part and the use of a sterile covering bandage.

The Country Doctor's Relations with the Metropolitan Institutions and Specialists.

Dr. Gilman Osgood, Rockland, mentioned the unpleasant features which may arise through the untactful words of hospital internes in the presence of referred patients, and also suggested that medical men in large centers should distinguish between patients referred for diagnosis and those sent for treatment. One source of misunderstanding might arise in operative cases in which the home physician felt competent to operate, but, wishing the consultant's opinion as to the advisability of such procedure, sent the patient for that information, but thereby lost control of patient. The country doctor wished skillful aid and courteous treatment from his city brethren.

DISCUSSION.

Dr. Maurice H. Richardson, Boston, said that he realized the opportunities for misunderstanding under the circumstances described. The three graces, Faith, Hope and Charity, are of much interest in this matter, but the practice of the latter led to most pleasant results. The consulting physician has his own matters to disturb. He felt that in operation the surgeon was responsible for all things, from an accident to the anesthetic, or a burn to the patient by the nurse, to the occurrence of a hernia in the scar. Caution was advised on part of family physician in accepting information sifted through the mind and word of patient returning home after a visit to the metropolitan physician. He felt that no patient was worth the loss of self-respect, as was often said by Dr. John Homans. The consultant was in a hard position when he discovered a real cause for censure in the home physician's care of a case, yet the tactful man might even overcome that condition. He considered institutional work more difficult and trying than private work, and advised charitable criticisms of all apparent lapses in etiquette.

Dr. Thomas F. Harrington, Boston, in the annual discourse on "The Sanctity of Medicine," reviewed the early history of medicine coming through the Greeks and Hebrews, and now reaching us as the era of scientific medicine. The faith of the laity was with us, as always. He advised the return of the family physician of the old school with the advances of scientific medicine added. Physicians should lead in questions of physical health and morals. Quackery and charlatanism should not continue to be mixed with the ideas of the people on medical propositions.

Council on Medical Education.

Dr. Harold C. Ernest, Boston, chairman of the Committee on Medical Education, reported the result of the conference of the Council on Medical Education of the American Medical Association in Chicago this spring. He reported the particulars in which Massachusetts was below the standard on matters of medical education and registration, namely, lack of required preliminary education, the undesirable condition which exists that does not require graduation from a reputable medical college as a prerequisite for registration; and the fact that Massachusetts has no reciprocity with the other states. He reported that of the 398 applicants in Massachusetts during last year, 40 per cent. were rejected; also, that of 66 candidates who applied for registration and who had no degree, 89 per cent. were rejected. In relation to the matter of employing a portion of the time of examination in practical tests, he reported that the board of registration would make a beginning along this line in the examination of July, 1908.

State and Medical Legislation.

Dr. George G. Sears, Boston, chairman of the Committee on State and National Legislation, reported that the committee had worked in unison with the Council on Medical Legislation of the American Medical Association. In state affairs it has opposed the bill for the registration of osteopaths, which bill has been defeated; also the bill to license so-called optometrists, which the presenter was given permission to withdraw; also a bill to prohibit compulsory vaccination, which amended present law so that it was not obligatory to vaccinate a child before the age of 2 years. It favored the bill to regulate expert testimony, which was under discussion; and also the bill to establish an observation hospital for insane persons in Boston, which bill has passed.

Grant for Tuberculosis Committee.

The associated committee on tuberculosis asked for an appropriation of $500, which was granted.

Contract and Lodge Practice.

The petition of the Essex North District Medical Society that the council consider the matter of contract and lodge practice and report means for its abolition, was granted, and Drs. William A. Dolan of Fall River, J. Arthur Gage of Lowell and Charles E. Durant of Haverhill were appointed a committee to consider the matter.

Ophthalmia Neonatorum.

It was voted that in view of the work that the American Medical Association was doing in the matter of ophthalmia neonatorum, and the gravity of the disease, that a committee of five be appointed to consider the treatment of the disease and measures looking to its prevention. The committee was appointed as follows: Drs. Oliver F. Wadsworth, Boston; Francis P. Emerson, Boston; Frederick E. Cheney, Boston; David Harrower, Jr., Worcester, and John W. Bartol, Boston.

Treasurer's Report.

The treasurer reported a balance of $13,390.16 in treasury; that 135 new members had been admitted during the year, and that 50 had died.

Defense of Malpractice Suits.

An act for the defense of suits for malpractice against members of the society was approved as follows, except for slight changes in phraseology:

Active members of the Massachusetts Medical Society shall be entitled, on conditions hereinafter specified, to receive, without personal expense therefor, legal advice and court service of an attorney or attorneys-at-law in the employ of the society, for the purpose of conducting their defense in any court in this commonwealth, when they are accused of malpractice, or of illegal transactions in connection with the commitment of persons to institutions for the insane.

The legal services herein provided for shall be granted only on the following conditions:

First Active members of the society desiring to avail themselves of the privileges of this act, shall make application therefor in writing to the secretary of the society, and shall show to his satisfaction that they are members in good standing in the society, and that all of their pecuniary obligations to the society by way of dues and assessments have been duly discharged. They shall also furnish the secretary at his request with a complete and accurate statement of their connection with and treatment of persons on which complaints against them are based, giving dates of attendance, names of and residences of nurses and of other persons cognizant of facts and circumstances necessary to a clear and definite understanding of all matters in question, and shall furnish such other relevant information, if possible, as may be required of them by the secretary or the attorney of the society.

Second. They shall agree not to compromise the complaints against them nor to make settlement of them in any manner without the advice or consent of the society given through its attorney, nor shall they employ other counsel in aid of their defense without the consent of the society.

Third. In the event that they shall, without the advice or consent of the society, determine to settle or compromise complaints against them, they shall reimburse the society for the expenses incurred in undertaking their defense, and in default thereof, they shall be deprived of further privileges under this act

Fourth. In the event that members of the society shall make requests under the provisions hereof, the president and secretary acting together shall have the power to grant the same, or for cause to reject them, as the case may be, and to make such further provisions or requirements as may be deemed necessary for carrying out the purpose and intent of this act.

Fifth. It is to be distinctly understood by each and every member of this society that under no conditions or contingency will the Massachusetts Medical Society pay any sums awarded in settlement or compromise, or by verdict or otherwise against any member sued for alleged malpractice, and each member in applying for the services of the attorney of the society in any malpractice case shall agree not to obligate in any manner the Massachusetts Medical Society, or any persons connected therewith, to the payment of any sums whatsoever for any purpose, except as may be specified in this act.

Sixth. This act shall take effect on its passage by the council and approval by the society, and shall apply only in cases arising subsequent to its enactment, and during the applicant's membership in the society.

Protection of Milk Supply.

Resolutions introduced by Dr. Arthur T. Cabot, Boston, were passed calling for increased protection to the milk supply and suggesting that proper legislation be urged. The recent epidemic in Jamaica Plain, Boston, was cited in which 400 cases of typhoid with 30 deaths followed the distribution of a contaminated milk supply.

Election of Officers.

The following officers were elected: President, Dr. Silas D. Presbrey, Taunton; vice-president, Dr. Daniel E. Keefe, Springfield; secretary, Dr. Francis W. Goss, Roxbury (reelected); treasurer, Dr. Edward M. Buckingham, Boston (reelected); librarian, Dr. Edwin H. Brigham, Brookline (reelected; and the following standing committees:

coln Davis, Boston; Louis W. Gilbert,
mmons, George H. Francis, Brookline,
Boston.

F. Wadsworth, George B. Shattuck, and Herbert L. Burrell, all of Boston.

Membership and Finance.—Drs. Francis W. Goss, Boston; Walter Ela, Cambridge; Charles M. Green, Boston; Algernon Coolidge, Jr., Boston, and Samuel Crowell, Boston.

To Procure Scientific Papers.—Drs. Ralph C. Larrabee, Charles Harrington, Fred. B. Lune, Robert B. Greenough, all of Boston; Christopher Seymour, Northampton, and Edward W. Taylor, Boston.

Ethics and Discipline.—Drs. Leonard A. Wheeler, Worcester; J. Arthur Gage, Lowell; Henry Jackson, Boston, and John W. Bartol, Boston.

Medical Diplomas.—Drs. H. E. Marian, Orville F. Rogers, Boston, and Herbert W. Newhall, Lynn.

Medical Education.—Drs. Harold C. Ernst, Horace D. Arnold, and Charles H. Williams, all of Boston.

State and National Legislation.—Drs. George W. Gay, Newton; George G. Sears, Boston; Daniel D. Gilbert, Boston; Charles H. Cook, Natick, and C. F. Wehington.

Annual Dinner.

Following the annual dinner, in which 1,200 participated, the president gave the opening address.

Dr. George W. Gay, Newton, outlined the process of medical legislation during the past year and spoke of the splendid work of Drs. Frank G. Wheatley of North Abington and Dr. Faxon in the State Senate, and of Dr. Oliver in the House, in presenting rational views to their colleagues on matters of public health.

Acting Governor Eben Draper was introduced and said that if any improper medical legislation occurred in the legislature it was the fault of the profession. If the medical profession will explain matters to the law-makers they are only too willing to act and to vote sanely. He had only words of praise for the skilful medical attendants of Governor Guild who brought about such a happy result. He spoke highly of Drs. Copp, Fernald and Drew (fellows of the society), whose efforts at the head of the state's institutions for the insane, degenerate and misbehaved individuals, have redounded to the great credit of the state.

Rev. Edward Cummings, Boston, spoke of the new "medicated theology." He felt that in all diseased states of mind no one was quite so well fitted to effect good results as the intelligent and competent physician, but suggested that perhaps medical men might go a little farther than is their wont in complaints mental and psychologic, and fill in any gap that may formerly have been left in such cases, and by so doing he thought the best solution of the treatment of such cases would be attained. In addition he considered the duty of the physician was very plain and lay in enlightening the patients and public on the elements of cure of the so-called social evil.

Representative Luce, Somerville, mentioned the great decrease in the death rate in preventable diseases due to the intelligent enforcement of judicious public health laws. He pleaded for more information on such proposed laws and said that just laws would then be passed. He said that the problems of degeneracy and alcoholism would best be solved by increased medical knowledge properly disseminated.

Dr. Herbert L. Burrell, Boston, was introduced as representing the American Medical Association and as its president. He extended the cordial greetings of the national body to the state body on the occasion of its one-hundred and twenty-seventh annual assembly. He gave a glowing account of the Chicago meeting, and said that the association had now 31,000 members, and was affiliated through the county societies with 88,000 physicians. The great society is proud of Massachusetts for giving to the world Boylston on vaccination; the Warrens on surgery; Morton on anesthesia; Bigelow on the hip; and Bowditch on state medicine. The association looked back on its successful Boston session of 1906 with the greatest pride. He mentioned the large registration at the recent Chicago session, of 6,400 physicians. Chicago was for a time a medical city. The social side was not the least helpful of the functions. The scientific work was truly wonderful and Dr. Harrington's oration on state medicine created a profound impression. The American Medical Association desires the valued conservative assistance which Massachusetts can so well give. He quoted the opinion of a large medical gathering in Edinburgh in which it was stated that "The Dorchester (Boston) Medical Club had the highest code of ethics in the world." He highly praised Dr. Gorgas in his great Panama undertaking.

DR. GAY then introduced Dr. Robert W. Johnson, president of the Baltimore Medical College and Dr. Silas B. Presbrey, newly-elected president of the Massachusetts Medical Society, to the members of the society.

MEDICAL LIBRARY ASSOCIATION.

Eleventh Annual Meeting, held at Chicago, June 1-2, 1908

The President, DR. GEORGE DOCK, Ann Arbor, in the Chair.

The Membership.

The secretary reported that the membership list as corrected contains 65 library members, 42 paying individual members, 2 honorary members, making a total of 109. To this has been added a list of 9 non paying representatives of library members.

The following applicants were admitted to membership in the association: Library members, Vancouver Medical Library, Vancouver, Canada; John Crerar Library, Chicago Individual members, Dr. Carl E. Black, Jacksonville, Ill; Miss Helen Hutchinson, Michael Reese Hospital, Chicago; Gen. A. C. Girard, Chicago.

The executive committee, at its February meeting, advised the dropping from membership of 18 libraries and 27 individuals for non-payment of dues.

The amount of money received by the treasurer had fallen to such an extent that the funds available for the management of the exchange and the *Medical Library and Historical Journal* were entirely inadequate to maintain the exchange in a satisfactory condition. The committee advises, therefore, that the exchange be discontinued, unless a much more satisfactory financial arrangement can be advised.

Discussion of the Bureau of Exchange.

The manager of the exchange stated that 1717 bound volumes and 4,285 numbers of journals had been sent to 30 libraries. Nominally the exchange was supposed to receive $30 monthly from the treasurer of the association and this amount, if received regularly, would cover all costs, as a matter of fact, however not a penny was received by the exchange from the association since the last annual meeting till May 28, 1908. On that date $60 was received in payment of the appropriation for July and August, 1906 The same condition obtained in reference to the payment of the association's subscription to the *Medical Library and Historical Journal* for its members. The December and March numbers of the *Journal* were in press and would be issued during June, 1908. It was planned to issue the June, 1908, number during July. Unless funds are provided for the uninterrupted activity of the exchange, he recommended that the lists of material for disposal be prepared and sent out with the provision that each member, after designating "wants," shall agree to pay a certain sum (say 5 cents for each bound volume and 2 cents for each number of a journal) for such wants as may be supplied, provided shipment of the indicated wants is made within one month of the date of receipt of such lists

MR. CHARLES PERRY FISHER then read a paper on "The Association of Medical Libraries, 1898-1907, Principally in Regard to the Exchange." He stated that the exchange was opened in Baltimore in 1899, the necessary funds being raised by subscription. In 1904 the annual dues were raised to $10 for each library membership and $5 for each individual membership and the exchange was moved to Brooklyn From 1905 on, the main incentive to membership in the association was the exchange and the expected benefits to be derived from it For this reason and on account of the numerous complaints that have been received, Mr. Fisher prepared tables showing the receipts and expenditures of the treasurer and the receipts and distributions of the exchange. From these tables it would appear at a glance that the treasurer "has lived within his income." But on analysis it will be seen that the full amount of the appropriation to the exchange has not been paid for the past three years. If all the members met their obligations, the income from dues at $10 per annum would cover all expenses. In 1907 there were 65 library and 44 individual members. The dues, if paid, would amount to $870 As some action is imperative in consideration of the complaints made to the officers of the association, and from the fact that the membership has been greatly reduced by the number of libraries that have deliberately defaulted in payment of their annual dues and thereby forfeited their membership in the association, Mr. Fisher suggested the following points for discussion:

1. Shall the finance committee make an effort with the assistance of individual members to raise an "endowment fund" of, say, $10,000, the income to be used in furthering the purposes of the exchange?
2. Shall we discontinue publishing our transactions and devote our entire income to the exchange?
3. Is it possible to have the exchange represented by some officer of the association whose duty it shall be to arrange exchanges between libraries direct?
4. Shall the Medical Library Association continue its work on lines similar to those of the American Library Association without attempting to support a bureau of exchange?

DR. GEORGE DOCK, Ann Arbor, thought the existence of the exchange a purely business matter. Without it the future of the society did not seem very important. It has been said that the exchange is of no value to the large libraries. This, he thought, was a mistake. Small interior libraries are often in a position to furnish material difficult to obtain, even if of no great pecuniary value Moreover, all the large libraries have been generous in sending material to smaller libraries, and they will no doubt continue to do so. There is no great gain from sending duplicates to the auction room The old book business in America is so poorly organized that it is difficult or impossible to depend on that either for selling or buying. Dr. Dock quoted figures prepared by Mr. Koch, librarian of the University of Michigan, showing that duplicates could be handled at a cost of about 4 cents a volume by using printed lists of wants and duplicates. Of course, the cost would vary in different places, but it seemed to him possible to continue the exchange with great profit to all concerned.

On motion of Mr. Fisher it was voted that the bureau of exchange be continued.

An offer from the Library of the Medical and Chirurgical Faculty of Maryland to take back the exchange, provided necessary arrangements were made for the payment of incidental expenses, was read by the president. General Girard thought Chicago would be a suitable place for the exchange, because of its central location and the large number of physicians there. He spoke of the possibility of the John Crerar Library providing room for it.

Mr. John S. Brownne of the Academy of Medicine, New York, and Dr. William Browning of Brooklyn were appointed by the president to confer with Mr. Huntington and arrange a settlement of the accounts of the association and propose a method for the future management of the exchange, with power to act.

It was voted that the office of manager of the exchange be declared vacant pending the action of the committee. Mr. Huntington's report as manager of the exchange, on motion of Mr. Andrews, was referred to the same committee.

Election of Officers.

The following officers were elected: President, Dr. George Dock, Ann Arbor, Mich; vice president, Dr. John H. Musser, Philadelphia; secretary, Miss Ada Bunnell, State Library, Albany, N. Y.; treasurer, Dr. George D. Hersey, 148 Broad Street, Providence, R. I; executive committee, Clement W. Andrews, John Crerar Library, Chicago; Dr. L. H. Taylor, Wilkesbarre, Pa. Dr. H. Winnett Orr, Lincoln, Neb; the president, secretary and treasurer, ex officio, with Dr. Dock as chairman; finance committee, Charles Perry Fisher, Philadelphia; Dr. G. N. J Sommer, Trenton, N. J.; Dr. J. George Adami, Montreal, Canada; Dr. George D Hersey, Providence, R. I; Miss Metta M. Loomis, Chicago

At half past 6 o'clock the members were entertained at dinner at the Union League Club as guests of Dr. Bayard Holmes.

The following were among the papers read: "The History of the Terminology of the Disease Known as Graves' D[illegible] dow's, etc: A Contribution to the Study of Medical Nomenclature." Dr. George Dock, Ann Arbor, Mich (This paper will appear in full in THE JOURNAL) 'The Department of Medical Sciences of the John Crerar Library," Gen. A. B. Girard, Chicago, "The Function of the Library in the Curriculum of the Medical School" Dr. Bayard Holmes, Chicago; "The Use of Current Medical Literature by the Small Medical Library," Dr. Carl E. Black, Jacksonville, Ill Miss Charlton's paper on "The Early Medical Profession in Canada" was read by Dr. Dock "The Development of Orthopedics as a Special Branch of Medical Literature," Dr. H. Winnett Orr, Lincoln, Neb

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Medicolegal

Liability of Corporation for Employment of Physician by President—Cross-Examination and Form of Charge for Services.

The Supreme Court of Washington says that the case of Russell vs. B. Schade Brewing Company was brought against B. Schade and B. Schade Brewing Company, a corporation, as defendants, to recover for services rendered to an injured employé of the company by the plaintiff as a physician and surgeon. The defendants admitted the injuries to the employé, but denied that they employed the plaintiff to treat him. The trial resulted in a judgment against the brewing company for $1,186, which is affirmed

The evidence being deemed sufficient to show that Schade intended in behalf of the corporation to employ the plaintiff, and that he intended that the latter should so understand it, the question was presented as to whether he had the authority to bind the corporation. It was admitted in the pleadings that he was at the time the president of the corporation. But, under many authorities, the mere fact that he was the president did not of itself empower him to make the contract

The rule followed in Illinois, as stated by the Supreme Court of that state in Bank of Minneapolis vs. Giffin, 168 Ill., 314, is to the effect that, as a general rule, a corporation acts through its president and through him executes its contracts, and that an act pertaining to the business of the corporation not clearly foreign to the general power of the president, done through him, will, in the absence of proof to the contrary, be presumed to have been authorized by the corporate body. The court recognized that an exception to the general rule may be created by the provisions of the by-laws of a corporation limiting the powers of the president, but held that, in the absence of proof that such by-laws existed, the presumption of authority prevailed

If the above rule should be applied here, then Schade, being the president and head of the corporation, would be presumed to have been authorized, since there was no proof to the contrary. There was no proof that the by-laws of the corporation, or any other act of the corporate body, had placed any limitations on his power in the premises. The Illinois rule was, however, criticized by the defendant company as not being in harmony with the weight of authority.

It was true that the testimony in the case at bar did not comprehensively cover the subject of the conduct of Schade in his relations with the corporation in general. It did show, however, that at the time the employé in question was injured Schade was at the brewery, that he immediately assumed to give directions as one apparently in charge, and that employés present appeared to expect him to do so. His consent to the calling of the plaintiff was sought and obtained. The plaintiff was called under his directions, and, when he arrived at the brewery, he mentioned to Schade the necessity of taking the patient to the hospital at once. Schade thereupon gave directions to the employés of the company to order an ambulance for that purpose, which was done. He afterwards talked with the plaintiff, also with the injured man, and with a nurse who served the latter as one having general powers of management. The confinement of the injured employé covered a period of several months, during which time the plaintiff performed two amputations on one of the patient's legs, and otherwise treated him almost from day to day. These facts were well known to Schade, and he was bound to know that the services were being rendered in reliance on his authority to make the employment. Having this knowledge as the president and head of the corporation, it should not be said that the corporation itself was under such circumstances wholly without knowledge of the situation. Schade was not only known to the plaintiff as the president of the corporation, but there was sufficient evidence to make a prima facie showing that he assumed to direct its affairs, and that he was permitted by the corporation to hold himself out and to act as one exercising apparent general authority.

After such a prima facie showing, it devolved on the corporation to show that Schade did not have the authority, if such was the fact. This was not done, and the court thinks, in view of all the evidence, there was no error in entering judgment against the corporation. In so holding, however, the court does not wish to be understood as at this time giving its full allegiance to the Illinois doctrine as heretofore stated, that the presumption of authority arises from the mere fact that the employment is made by the president of a corporation. As has been seen, the facts of this case were such as placed it in another and larger class of cases, which require some appearance of active direction of corporate affairs in order to raise the implication of authority.

The court does not consider that error was committed in refusing to permit the cross-examination of the plaintiff with reference to what he would have done if Schade had not made the alleged promise to pay him for the services. The court says that cross-examination for the purpose of ascertaining all the facts and circumstances that actually existed was proper; but it was wholly immaterial what the plaintiff might or would have done under merely supposed circumstances which he asserted did not exist, and it was not error to exclude cross-examination on such a purely speculative subject.

Nor does the court agree with the contention that the entry in the plaintiff's book: 'Account of John Blickensdorfer, residence care of the Schade Brewing Company," was an admission that the charge was not at the time made against the company, but against the injured man. The court says that the plaintiff testified that it was not so intended, but that the entry was simply his method of identifying the account as that of the company for services rendered Blickensdorfer. The account book was one with certain printed headings, and blanks left for entries. The word "residence" was printed, and was not erased. The actual entry the plaintiff testified was made without any reference to the matter of residence. The oral evidence was explicit as to the employment and it was not to be excluded from consideration by the introduction of a mere loose memorandum not intended to be a permanent memorial of the agreement, to which class of writings entries made in books of account belong.

Proper Construction of Statute Making Communication to Physicians Privileged—Admissible Evidence.

The Supreme Court of Missouri, Division No. 1, says, in the personal injury case of Green vs. Terminal Railroad Association of St. Louis, that Section 4659 of the Revised Statutes of Missouri of 1899 provides that: 'The following persons shall be incompetent to testify: . . . Fifth. A physician or surgeon, concerning information which he may have acquired from any patient while attending him in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or doing any act for him as a surgeon." This statute creates a privilege unknown to the common law. In that particular it stands on a different foot than a similar privilege relating to an attorney and client. As shown by a table prepared by Judge Jacob Klein and inserted as a note to Gartside vs. Insurance Company, 76 Mo., 452, such statute was first enacted in New York in 1828 and next in Missouri in 1835, the Missouri statute being substantially a copy of that of New York. A similar statute was adopted in Michigan in 1846, and it is not without significance that this court has levied tribute time and again on adjudications of the higher courts of those two states in interpreting its own statute.

Though in derogation of the common law, courts have not applied the rule of strict construction sometimes applied to statutes of that character. To the contrary, the right doctrine seems to be that the policy of the statute is an elevated one. It was intended to invite confidence between patient and physician and to prevent a breach of such confidence, and should be so construed as to further its life and purpose.

The ultimate object of every judicial inquiry is to get at the truth. Therefore no rule of law standing in the way of getting at the truth should be loosely or mechanically applied. The application of such law must be with discrimination, so that it may have the legislative effect intended for it, and yet the investigation of truth be not unnecessarily thwarted.

Evidently the legislature had these considerations in mind; for the language used in Section 4659 plainly restricts the privilege created. The statute does not say, in effect, that the door of the sick room shall be locked once for all. It does not say, in effect, the mouth of the physician or surgeon shall be closed once for all. The wise general rule being that the admissions of a party to a suit made outside the courtroom are inadmissible in evidence against him, the statute does not say that all such admissions made to a physician or surgeon are privileged. It stands precisely the other way. The information under its ban is not all information acquired from a patient, but is such only as was "necessary to enable him to prescribe for such patient as a physician, or doing any act for him as surgeon." These are clear words in the law, and under no canon of construction should they be interpreted out of the law by refinement, or because of fanciful ills. In other words, the danger of frittering away this statute is not to operate as a scarecrow frightening courts from their duty to give to every word of it a due office and meaning, being zealous and astute at all times to see to it that the statute be so construed as not to strike down its obvious purpose. To this delicate and discriminating task courts have addressed themselves.

The New York court in some cases in one particular went further possibly than this court has gone in regard to the burden of proof. It held that the burden was on the plaintiff to show that the testimony was privileged and came within the provisions of the statute. This court has indicated that there was a presumption the other way. But this court is in accord with the New York court in holding that the law must be applied with discrimination, and that all information given by the patient to the physician is not privileged, but that the privilege extends only to information of the character mentioned in the statute. The rule in Michigan is the same way.

In this case the testimony of certain surgeons at a hospital used by the defendant company for the benefit of its employés needing medical or surgical aid was admitted to prove that the plaintiff was not in the open where he could be seen, but was between the cars when a backing train collided with standing cars—that is, he was concealed—when injured, precisely as his statement made to the claim agent showed and precisely as the defendant's other evidence tended to show, and contrary to his evidence at the trial. The court is of the opinion that the testimony of the surgeons was competent. It says that a case might be imagined where the method by which a man lost his arm was an element essential to correct surgical or medical treatment, but no case can be imagined within the realm of sense where surgical or medical treatment in any wise depended on whether a man was squatted in an open place or squatted in a concealed place when hurt. The surgeons testified they did not need and did not acquire the information for surgical purposes. It stood then nakedly as an admission and without privilege under the Missouri rule. Hence the testimony was admissible, and the court was not justified in disturbing the verdict because the testimony was let in.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

July 16.

1 *Endocarditis. A. K. Stone, Boston.
2 *Fresh Animal Sera in Hemorrhagic Conditions. T. Leary, Boston.
3 *A Typhoid Carrier Fifty-two Years After Recovery. D. Gregg, Boston.
4 Obliterating Endarteritis: Types and Their Surgical Importance. C. F. Painter, Boston.
5 Traumatic Focal Telangiectasis of a Tendon. A. T. Legg, Boston.

1. **Endocarditis.**—Stone prefers a division of endocarditis into an infective and an arteriosclerotic type rather than into a simple, or benign, form and an ulcerative, or malignant, type. The causal element of these lesions is not yet known. Arteriosclerosis is not infrequent in children, and persons who have had typhoid are more likely to have the lesions in later life than those who have not. The *Spirochæta pallida* may be the active cause in syphilitic cases. In some cases the active infective process may do its work on the blood vessels rather than on the heart muscle. The disease is important according to the situation of the lesion. The amount of the disease and its conditions may vary as much as do similar infective conditions in the knee or other joints. There may be an infection with so virulent an organism that productive inflammatory processes may be accompanied by destructive ones, or the newly formed tissue may be unable to maintain its nutrition and break down from sheer rapidity of its production. When there has been old inflammatory disease of the valves there is a tendency for a new and acute process to develop. As to the bacteriology of acute ulcerative and malignant endocarditis, there is nothing to add to what is generally known about septicemia. The point of entrance of the infective organisms may be very small, indeed; general infection may follow after mild sore throats, exacerbations of urethritis, or small pustular eruptions. In all conditions in which a general infection may develop the heart must be watched with the greatest care and the symptoms which might arise from the pressure of ulcerative surfaces must be interpreted in terms of emboli and infarcts. A great difficulty in the way of a just diagnosis of ulcerative endocarditis is that these well-marked pathologic conditions often give rise to practically no symptoms associated in our minds with valvular disease of the heart. Stone reports a series of illustrative cases.

2. **Fresh Sera in Hemorrhages.**—Leary discusses the practical value of fresh animal sera in the treatment of hemorrhagic conditions. He has made use of rabbit serum entirely in his observations, rabbits being easily kept and subject to fewer diseases than horses are. It is possible to obtain large quantities of serum aseptically by cardiac puncture without seriously disturbing the animal. He describes the technic and says that by this method serum can be introduced into the patient within two hours after its removal. He mentions the use of diphtheria antitoxin for this purpose, and discusses the choice of methods—intravenous or subcutaneous. He would limit the intravenous use to extreme cases in which immediate results are important. He discusses serum sickness and reports 20 cases, in 15 of which hemorrhage had already appeared, and in the remaining five it was used prophylactically. The cases comprise jaundice, hemorrhage of the newborn, hemophilia, purpura, postoperative cases, uterine and typhoid hemorrhage.

3. **An Extraordinary Typhoid Carrier.**—Gregg reports a case in which 7 cases of typhoid occurred among the inmates of a small boarding house in a farming town, between August, 1905, and March, 1908. The mistress, who prepared all the food herself, had had typhoid in 1856. No other cases occurred in the neighborhood at the times the respective patients were seized. An examination of the blood and urine proved negative, but examination of the fæces gave pure cultures of a bacillus in every way similar to the typhoid bacillus. The same results followed examination two weeks later. There was no other discoverable source of infection. The woman herself was in excellent health.

New York Medical Journal.

July 18

6 *Cesarean Operation: Indications and Technic J O Polak, Brooklyn, N Y
7 Dies Caniculares J Knott, Dublin, Ireland
8 *Syphilis Extragenitally Acquired in Early Childhood F C. Knowles, Philadelphia
9 *General Anesthesia in Mouth, Nose and Pharynx Surgery D. Stetten, New York
10 Neuroglioma Gangliocellulare of Brain; Operation; Recovery. T. M T. McKennan, Pittsburg and F R Proescher, Pittsburg
11 A New Corset for Gastroptosis A Bassler, New York
12 Dermoid Tumor of Conjunctiva M J Levitt Brooklyn, N Y
13 Renal Pyuria without Apparent Kidney Lesion I Levin, New York

6 **Cesarean Operation.**—Polak discusses the absolute and relative indications for Cesarean section In the former he includes a conjugata vera less than 6 7 cm. (2⅝ inches), high degrees of kyphosis, osteomalacia, spondylolisthesis and Naegeli pelves, new growths in pelvis or at pelvic brim, or fibroma or other growths that have become incarcerated in the bony pelvis. Also dense rigid cicatrization of the vagina or from cervical or rectal cancer. In relative indications he thinks the upper limit of pelvic contraction should be put at 8 5 cm in flat pelves and 9 cm in the generally contracted pelvis, thus placing the operation in competition with symphyseotomy or pubiotomy, induction of premature labor and high forceps in those cases where the head does not tend to engage the brim Procrastination for "the test of labor," Polak considers detrimental to the mother He is rather against eclampsia *per se* as a relative indication, as such patients stand shock and sepsis badly, and are, therefore not good operative risks The small number of viable children met with in central implantation of the placenta, coupled with our increased facilities for checking hemorrhage and dilating the cervix since the introduction of the Pomeroy bag, lead Polak to prefer intrapelvic operation in these cases also He includes as relative indications the class of physically unfit women in whom the expulsive powers are too weak to overcome normal resistance (Reynolds), and women with endocardial lesions who have shown signs of broken compensation prior to pregnancy. Where the pelvic outlet is so contracted as to make forceps delivery impossible, Cesarean section comes into competition with embryotomy, as is also the case in incarcerated tumor and displacement of cervix owing to previous ventrofixation But he insists emphatically on the fact that when section is likely to be necessary it should be determined on if possible in advance and be performed as a primary, not a secondary, operation He limits the vaginal operation to primiparous eclamptics with long rigid cervices, and before viability, or before term. Describing the technic in detail, he concludes "The Cesarean operation, properly chosen, gives the woman and child equal chances, and deserves a more extended use in the hands of the abdominal surgeon"

8 **Syphilis in Childhood.**—Knowles enumerates the various methods whereby syphilis may be innocently acquired in childhood, as follows: Parturition, circumcision, vaccination, breast feeding, hand feeding, fondling, household utensils, toilet articles, unsterilized surgical, dental and electrical appliances, careless and unclean methods in caring for wounds and removal of foreign bodies, and miscellaneous sources He discusses each of these heads in detail. Among the miscellaneous sources he instances a chancre on the buttock from contact with the mother's vulva (Trousseau); inoculation of a scratch on the forearm of a 9 year old girl from mucous patches on the anus of an infant she carried (Dowse), a case of fatal ulcerative syphilis; using a conductor's whistle (Taylor); a boy smoking his uncle's discarded cigar stump (Englested); an infant poking its fingers into other people's mouths and then into its own (Pontet); inoculation by the mother's finger (Sigmund). He records a case of his own in which the primary sore appeared on the left cheek and escaped recognition until after the appearance of secondaries The source of infection was found in the mother, though the primary infection was not obvious and the father was clear. He says: "The mother evidently contracted the disease from some outside, unknown, possibly innocent source"

9. **Anesthesia in Oronasal Surgery.**—Stetten deals with the class of prolonged operations, short ones, such as tonsil or adenoid operations, rarely causing concern to either operator or anesthetist. He discusses the various measures that have been tried to overcome the difficulties—inspiration of blood and mucus, mutual interference of operator and anesthetist, etc—and points out the disadvantages respectively of tracheotomy anesthesia, inhalers (Junker, Braun, Gwathmey), rectal etherization, various postures and intubation. He has adopted with certain modifications the method proposed by Crile in 1903. Briefly the plan as originally suggested for mouth cases is a double tubage of the nares into the pharynx, and a packing of the oropharynx with gauze. In nose operations the two tubes are passed through the mouth and the oropharynx and nasopharynx are packed. As the success of the method depends mainly on carefully carried out technical details and the failures one meets with are usually due to lack of attention to these, he gives an exact description of the plan he follows The method has been extended in its scope to include other head and neck operations, e. g., mastoid, goiter, gland and brain operations. He suggests the use of the double tubes employed in this method of anesthesia, with an artificial respiration bellows, in cases where artificial respiration is necessary.

Medical Record, New York.

July 18.

14 The Standard of Medical Education H B Ward, Lincoln. Neb
15 *Etiology of Paralysis of the Recurrent Laryngeal Nerves of Peripheral Origin D B Delavan, New York
16 *Ocular Reaction to Tuberculin Capt C N Barney and Capt R Brooke, Jr, U. S. Army
17 *Deutschmann's Serum Against Infectious Diseases E. Caravia, New York
18 *A New and Efficient Method of Room Disinfection. W B McLaughlin, New York

15 **Peripheral Recurrent Laryngeal Paralysis.**—Delavan discusses this subject under the headings of paralysis due to: 1, Traumatism or laceration of nerves; 2, mechanical pressure on nerve; 3, toxic influences. Injury may occur in accident, or be self inflicted or be caused during operation. Pressure may occur from new growth, aneurisms, heart disease, diseases of pleura and scoliosis. Toxic causes are less frequent than those due to injury or pressure. They may be due to drugs, especially lead, arsenic, antimony, copper, potassium iodid, iodoform, and perhaps potassium cyanid and phosphorus; also alcohol, opium, belladonna, cannabis indica and cocain. Acute infections also may be responsible—typhoid, acute rheumatism, influenza, diphtheria, typhus, pneumonia, puerperal fever, erysipelas, measles, scarlet fever, gonorrhea, serum therapy. It is impossible to escape the conviction that some of the cases of recurrent paralysis found accompanying violent inflammations of the throat have been due to the effects of superficial irritation.

16. **Ocular Tuberculin Reaction.**—As a result of tests in 321 cases, including 250 tuberculous, Barney and Brooke consider that the diagnostic value of the ocular reaction is as great as that of the Widal test for typhoid fever. The greatest practical value of the test is in assisting in the diagnosis of the tuberculous basis of slight signs at one apex when bacilli are not present in the sputum, and in the diagnosis of tuberculosis localized outside of the lungs If no reaction is obtained to a properly given dose of one-fourth of a milligram in an individual, the chances are ninety seven out of a hundred that he has no active tuberculosis. If reaction to this dose occurs in an apparently healthy person the probabilities are that he has a small focus of tuberculosis, either active or clinically inactive, together with strong resistance; but as this has not been unequivocally demonstrated, and as the lesion, even if it does exist, may never give symptoms, it is not wise in practice to assume that the occurrence of reaction invariably denotes the existence of tuberculosis The occurrence of reaction in an apparently healthy person should, however, put the physician on the watch to detect the earliest symptoms of tuberculosis, in case any should appear. The test would be of value as a rough test in large numbers of people, as in recruits, but the presence of reaction should only lead to more careful examination and not in itself be taken as certainly indicating clinically active tuberculosis.

17 **Deutschmann's Serum**—Caravia discusses and reports observations on the use of Deutschmann's serum for use

against infectious diseases. This serum is not a bactericid or an antitoxin; it is a polyvalent serum neutralizing germs of all kinds, not of one kind only. He refers to Deutschmann's article in the *Beiträge zur Augenheilkunde*, August, 1907. Caravia has found it serviceable in acute and chronic purulent microbic inflammations of the eye. He reports five cases. It has also been effectively used in tonsillitis, measles, scarlet fever, gluteal swelling and peritonitis.

18. **Room Disinfection.**—McLaughlin discusses the Maine method, the Walker method and the Stewart method, which he considers lacking in penetrative power. McLaughlin finds that by mixing formalin and phenol (carbolic acid) great penetrating power is obtained. He uses a mixture of 75 per cent. of a 40 per cent. formaldehyd solution and 25 per cent. of phenol, allowing 8 ounces of this mixture to 1,000 cubic feet, and keeping the room closed for twelve hours. A sheet is saturated with the solution and hung in the room. A resistant strain of the *Bacillus pyocyaneus* was killed under the carpet, in the pocket of a tightly rolled coat and in many other searching tests.

Medical Fortnightly, St. Louis.

July 10.

19 Plain Labels on Germ Friends. A. Abrams, San Francisco.
20 The Bacillus of Mind and Its Decrees. A. S. Ashmead, New York.
21 *Clinical Study of a Case of Adiposis Dolorosa. W. W. Graves and W. H. Cook, St. Louis.

21. **Adiposis Dolorosa.**—Graves and Cook report a case of this disease in a negress, aged 62, and comment exhaustively on the differential diagnosis of the disease.

Lancet-Clinic, Cincinnati.

July 11.

22 Colorado and the Eastern Pulmonary Case. W. A. Campbell, Colorado Springs, Colo.
23 Pregnancy When Complicated by Tuberculosis. H. A. Miller, Pittsburg.
24 Tracheo-Bronchoscopy, Esophagoscopy and Gastroscopy. J. W. Murphy, Cincinnati.
25 Some Features of Femoral Hernia. W. D. Haines, Cincinnati.
26 Obscure Fractures Discovered by Roentgen Examination. S. Lange, Cincinnati.

American Journal of Medical Sciences, Philadelphia.

June.

27 *Use and Abuse of Digitalis. T. C. Janeway, New York.
28 Clinical Study of Heart Cases. L. A. Conner, New York.
29 *Irregularities of Heart Resulting from Disturbed Conductivity. J. Erlanger, Madison, Wis.
30 *Jugular Pulse of Man. G. M. Piersol, Philadelphia.
31 Primary Carcinoma of the Appendix. C. A. McWilliams, New York.
32 Primary Carcinoma and Endothelioma of the Appendix. A. O. J. Kelly, Philadelphia.
33 Surgical Aspects of Dupuytren's Contraction. R. Russ, San Francisco.
34 *Torsion of Appendices Epiploicæ and Its Consequences. W. A. Briggs, Sacramento, Cal.
35 Primary Tumors of Adrenal Gland in Children. W. Tileston and S. B. Wolbach, Boston.
36 Congenital Absence of Gall Bladder. I. S. Stone, Washington, D. C.

27. **Digitalis.**—Janeway enumerates as follows the causes for failure in the employment of digitalis, in the order of their frequency and importance 1. The use of inefficient preparations. 2. Use in unsuitable cases. 3. Improper dosage. 4. Improper methods of administration. 5. Neglect of other necessary therapeutic measures. 1. Inefficient Preparations. In order that we may be sure of giving efficient digitalis, and not inactive or irritating digitalis decomposition products, the following conditions must be fulfilled: (a) The leaves must be from plants of the second year's growth, picked at the beginning of efflorescence, freed from stalks, and carefully dried. (b) The dried leaves must be kept absolutely dark and free from moisture in sealed tin or glass containers, and for not more than one year. (c) The preparation dispensed must be freshly made from these leaves in exact accordance with the method prescribed by the Dispensatory. The worst digitalis preparation is an infusion made by diluting the fluid extract, thus precipitating all its active ingredients. Other inefficient forms are the many tablets or pills containing digitalis or digitalin. The only solid form in which digitalis should be given is the freshly powdered leaf in capsule or pill. 2. Use in Unsuitable Cases. The physician who gives digitalis to slow the heart in a paroxysm of tachycardia or in fever, to produce diuresis in acute nephritis, or to remove an inflammatory pleural effusion, is foredoomed to failure; yet all these are attempted, and faith in digitalis for its rightful uses is lost in consequence. He describes the newer heart physiology, which we owe largely to Gaskell and to Engelmann, and which has illuminated many dark corners of the subject. For rapid heart action one should use digitalis only when there is also some insufficiency of the ventricles. It is the ideal drug to combat general venous stasis. Controversy has also centered around the use of digitalis in aortic insufficiency. To the author's mind the indications here are quite the same. We aim to correct function, not structural defects. Is there loss of tone and diminishing systolic output, with scanty urine, congested liver and dropsy? Then give digitalis. When these phenomena appear in aortic disease, relative mitral incompetency frequently shows itself, and therapeutically and physiologically the problem differs little from primary mitral regurgitation. On the other hand, if the symptoms are merely orthopnea or paroxysmal dyspnea, or anginoid pain, then digitalis has no place. We should get away from anatomic categories in our medical treatment. In all the surgeon's statistics, inoperable cases are carefully eliminated from the calculation of results. Medical men have inoperable cases, too; more of them than the surgeon. We must endeavor to restore function, even when anatomic change has progressed to a degree incompatible with life. But, when we come to query the value of this or that method of treatment, we are justified in attempting to separate such cases as well as may be. 3. Improper Dosage. The only guide to dosage is therapeutic result. This means a clear-cut picture of the indications for the drug in the particular case, close observation of its effects, and knowledge of its earliest toxic manifestations. 4. Improper Methods of Administration. Physicians often persist in administering the drug by the mouth, when frequent vomiting shows how little hope there is for absorption from the stomach. Two other paths of absorption are readily available: the rectum and the subcutaenous tissues. Half an ounce of infusion, per rectum, three times a day, will give about as prompt results as by mouth. 5. Neglect of Other Necessary Therapeutic Measures. A few nights robbed of their sufferings by morphin, may turn the scale in many heart cases. As an adjuvant treatment the dry diet stands high. Free purgation will help to relieve the secondary portal congestion. When anemia is marked, iron is essential. In a different category come the vasodilating drugs, which must be given with digitalis to counteract its arterial constriction in certain cases of hypertension.

29. **Irregularities of the Heart.**—Erlanger studies the differences in structure and function between the mammalian and the cold-blooded heart. By gradually compressing the normally beating mammalian heart in a specially devised clamp, all the grades of impaired activity observed in the cold-blooded heart may be obtained. These, in order of their appearance, consist of: 1, An increase in the As-Vs (pause between the contraction of auricles and ventricles) interval; 2, the occasional failure of the ventricles to respond to the regularly contracting auricles—these "ventricular silences" may recur with great regularity, for example, after every tenth, ninth or eighth, etc., auricular contraction; 3, the failure of the ventricles to respond to every other auricular contraction—a 2 to 1 auriculoventricular rhythm; 4, 3 to 1 rhythm; 5, relatively complete auriculoventricular heart block; 6, absolutely complete auriculoventricular heart block. He gives a diagram making clear the several disturbances in conductivity. The variations in the irritability of heart muscle are explained by the fact that the resting heart tissue stores within itself an unstable, energy-yielding material, the instability of which increases as it accumulates. A stimulus strong enough to elicit a contraction does so by decomposing all this material. The irritability of the heart tissue, it may be assumed, depends on the amount of the unstable substance present in it at any one time. Immediately after the heart has contracted, therefore, it contains none of the unstable substance; consequently it is non-irritable. But after the heart

has completed its contraction the material begins to accumulate rapidly at first and then more and more slowly; the irritability when it returns, therefore, increases rapidly at first, but finally becomes more or less constant. He describes sino-auricular heart block and auriculo-auricular heart block, and concludes that these are the principal ones that concern the clinician, though partial and complete block may be established experimentally between any two parts of the heart, provided one of the parts be spontaneously rhythmical, by functional connection between them; and pathologic processes might effect the same result. He concludes his article as follows: While it may be possible in particularly clear cases of auriculoventricular heart block to make a correct diagnosis without the aid of the more exact methods of investigating the organs of the circulation, the more obscure cases of this form of heart block, but especially the other forms of heart block, can be recognized only with the aid of the graphic method.

30. **Jugular Pulse.**—Piersol concludes as follows: 1. There are not sufficient grounds to doubt that the *c* wave in the jugular pulse of man is, as Mackenzie said, anything but a carotid product. 2. The jugular pulse of dogs, even when all carotid influence is eliminated, shows a small wave at the beginning of ventricular systole. 3. In man a double *a* wave is sometimes found, the second rise of which can not be identical with the wave described in dogs, since its occurrence is too early. 4. In addition to any double *a* wave in man, another wave, appropriately called wave *b*, often shows between *a* and *c* begins just after, or in the last part of, the ventricular presphygmic period. 5. Since the wave found in the jugular pulse of dogs at the beginning of ventricular systole has its counterpart in the *b* wave of man's jugular pulse, the assumption that the wave found in dogs is identical with Mackenzie's *c* wave is unjustifiable.

34. **Torsion of Appendices Epiploicæ.**—Briggs gives a synopsis of previously reported cases and adds one of his own He summarizes his conclusions as follows: 1. Torsion of appendices epiploicæ is more frequent than the paucity of references in medical literature would imply. 2. Torsion of appendices epiploicæ usually occurs in persons more or less obese, during middle life and later. 3. Intra-abdominal torsion of appendices epiploicæ may simulate appendicitis, hepatic colic, cholecystitis, and various other intra-abdominal diseases. Torsion of appendices epiploicæ in the hernial sac may cause all the local symptoms of an acute omental or intestinal femoral or inguinal hernia. 4. Torsion of appendices epiploicæ may result in corpora aliena adiposa, in adhesions and bands, and their consequences. 5. Corpora aliena adiposa may become infected and cause general peritonitis. 6. In the present state of our knowledge anything more than a tentative diagnosis of torsion of appendices epiploicæ would be rarely possible. 7. Early operation is indicated in all cases.

Interstate Medical Journal, St. Louis.

June.

37 Practical Aspects of the Physiology of the Circulation. C C. Guthrie, St. Louis.
38 *Vaginal Fixation of Uterus F. A. Glasgow, St. Louis.
39 Fibroma of Trachea. W. E. Sauer, St Louis.
40 Flannel Roller-Bandage in Umbilical Hernia in Infant. A S Bleyer, St. Louis.

38. **Vaginal Fixation of Uterus.**—Glasgow criticizes the various measures advocated for procidentia uteri and particularly the various methods of abdominal suspension. He considers the operation of Dudley, who utilizes the base of the broad ligaments as a point of suspension, the best, and uses it "with some additional procedures which make it still more certain of success." He emphasizes the following points: First, do not operate too soon. Hold up the uterus with tampon or pessaries until the parts are in good, healthy condition and have undergone as much involution as you may expect. It is marvelous to what extent and how soon involution takes place. Second, get the bases of the broad ligament together. Third, get the fascia on either side of the vagina together. Fourth, draw uterus down toward this thickened fascia, but not far. Fifth, leave all mucous membrane intact, both on anterior and posterior wall. Sixth, get the fibers of the levator together

-Archives of Pediatrics.

June, 1908.

41 Intestinal Intoxication in Infants. R. R. Kimball, New York.
42 *Advances in Infant Feeding. F. H. Lamb, Cincinnati.
43 Sanitary Milk. P. G. Heinemann, Chicago.
44 Bell's Palsy in an Infant. J. C. Gittings, Philadelphia.

42. **Infant Feeding.**—Lamb emphasizes the following points: 1. The most important thing in infant feeding is to know the exact amount of food the child receives in twenty-four hours. The only way to do this is to calculate energy quotients. 2. The percentage method is uncertain, complicated and unscientific. 3. Feed amounts, not percentages. 4. Overfeeding is one of the most common causes of nutritional disturbances in children and is a distinct clinical entity. 5. Fat is the element in cow's milk to be feared. 6. Fat produces constipation, proteids never do. 7. The curds in the stools are not proteid, but calcium soaps, fatty acids or fats. 8. Casein is not difficult to digest, does not produce digestive disturbances, and does not undergo putrefaction in the intestinal canal. 9. The newborn infant can digest starch. 10. Dextrins and starches are the most valuable adjuncts to milk feeding. 11. The volume of the food should depend on the weight of the child and never exceed 36 or 38 ounces. 12. The interval between feedings should never be less than three hours and after three months four hours.

Memphis Medical Monthly.

June.

45 *Achylia Gastrica. H. B. Kincaid, Memphis.
46 Surgical Side of the "Floating Kidney" Problem. J. A. Crisler, Memphis.
47 Treatment of Rectal Cancer. A. B. Cooke, Nashville.
48 Pregnancy at Nine Years of Age. V. I. Pittman, Cadaretta, Miss.
49 One Hundred Obstetric Cases. D. M. Hall, Memphis.
50 Gunshot Wounds of the Abdomen. A. B. Oliver, Memphis.

45. **Achylia Gastrica.**—Kincaid says that symptomatic or primary achylia is not so serious a disease as the secondary form. The symptoms of achylia are not characteristic, and in the neurotic it sometimes exists without symptoms. Intestinal symptoms appear sooner or later in half the cases. He divides cases into four classes, those: 1, Without gastric or intestinal symptoms; 2, with stomach symptoms, but without bowel disturbance; 3, with intestinal symptoms only; 4, with both stomach and intestinal symptoms. But the diagnosis can not be made from symptoms alone, but only by careful examination of stomach contents. In regard to treatment he emphasizes the importance of thorough disintegration of food. Vegetable foods are well borne, meats are only to be allowed in small quantities. Hydrochloric acid, pepsin and pancreatin are of value; the former especially in cases complicated with diarrhea and also in cases with nervous symptoms. He administers 30 to 70 drops of dilute HCl. Tincture of nux vomica before meals may be beneficial. Undigested food in the colon calls for colonic flushing and excessive mucus for gastric lavage.

Virginia Medical Semi-Monthly, Richmond.

June 12.

51 Treatment of Ante Partum Eclampsia. J. F. Winn, Richmond.
52 Puerperal Eclampsia. M. L. Rea, Charlottsville.
53 The Eye in Diagnosis of Systemic Diseases. L. O. Mauldin, Greenville, S. C
54 The Rheumatic Cycle in Childhood. St. G. T. Grinnan, Richmond.
55 Injection Treatment of Hemorrhoids. L Elliot, Washington, D. C.
56 Scientific Mechanotherapy and So-Called Osteopathy. V. Ulrich, Richmond.
57 *Pathogenesis of Tabes Dorsalis. T. A. Williams, Washington, D. C.

57. **Tabes Dorsalis.**—Williams discusses the pathogenesis of tabes dorsalis and adduces considerations that compel him to accept the contention of Babinski and Nageotte, that a chronic syphilitic meningitis is responsible for what has been called tabes dorsalis, and that it was formerly disregarded on account of the tendency to the occurrence of resolution and fibrosis of the lesions. From this he concludes that cases taken early may be completely arrested, and in all cases the active manifestations may be resolved if adequately treated before the destruction of the elements has occurred, though naturally the residues of former exacerbations can not be removed.

American Journal of Surgery, New York.

June

58 Operative Indications in Dislocation of the Humerus with Fracture C P Flint New York
59 *Nephropexy, with Reference to an Improved Technic F G Du Bose, Selma Ala.
60 *Ischochymia Simulating Gallstone Disease M Einhorn New York
61 Non Penetrating Abdominal Wounds J L Wiggins East St Louis Ill
62 *Lymphatic and Portal Infections Following Appendicitis R Hill St Louis
63 Diagnostic Value of Tenderness in the Ciliary Region E S Thompson, New York
64 Surgical Treatment of Trachoma W M Cathcart New York
65 Tuberculosis of the Testicle H Wilkinson, Kansas City, Kan
66 Artificial Synovial Fluid R T Morris New York
67 Fracture of the Tibial Spine S Epstein New York

59 **Nephropexy.**—Du Bose summarizes his procedure as follows: Usual position and incision Obliteration of retroperitoneal or renal pouch by button holing the kidney through its fatty capsule (Shoemaker) The anchoring of the nephrocolic ligament (Longyear) The insertion of sutures under the fibrous capsule of kidney in such a manner that they will not tear out (Broedel), and on the posterior surface of the kidney, bringing it in the planes of the normal position and relations and retaining it in such position, avoiding in this way kinking or torsion of the ureter (Goelet) There is no stripping of the capsule no decapsulation and no suture within the substance of the kidney, no drainage is required

60 **Ischochymia Simulating Gallstone Disease**—Einhorn reports three cases and presents a table of differential diagnosis between benign ischochymia and gallstone diseases He insists on the importance of examining the stomach contents in all cases of apparent cholelithiasis, especially when the diagnosis is not absolutely positive It may happen that both diseases are present, such cases are not frequent but they do occur In these instances it is important to find out which process causes the main symptoms at the moment, so that the treatment may be directed against it The prompt recognition of the presence of ischochymia—even if it be associated with gallstones—will always be of benefit in the correct management of the case

62 **Lymphatic and Portal Infections Following Appendicitis.**—Hill reports an unusual case of lymphatic and portal infections following appendicitis in which apparently the primary invasion took place directly through the veins and led to a very rapid general infection. He calls attention to the need of guarded prognosis in such cases, owing to the insidious development and the obscurity of the symptoms We are almost absolutely helpless in the presence of some severe forms of infection when the infecting organism has once passed into the general circulation Early removal of the appendix is the lesson

New Orleans Medical and Surgical Journal.

June

68 *Treatment of Inoperable Cancer H R Slack, La Grange, Ga
69 Relation of Adenoids and Enlarged Tonsils to the Mental and Physical Development of Children H G Savage, Warsaw, Mo
70 Pott's Disease, Its Early Diagnosis and Treatment G K Logan, New Orleans La
71 Tuberculosis in Infancy and Childhood W W Butterworth, New Orleans
72 Tuberculosis of the Skin H F Menage New Orleans
73 Possibilities of Medical Organization O Dowling, Shreveport, La.

68 **Inoperable Cancer.**—Slack refers to a former paper (THE JOURNAL, June 27, 1897), entitled 'Blue Pyoktanin in the Treatment of Inoperable Malignant Growths," and says that, though he has abandoned the hope then expressed of effecting a cure by its use alone, he has cured a number of cases by using it in connection with the *x* rays In surface growths he gives a tablet of methylene blue, 2 grains (.13), and extract of belladonna, ¼ grain (.016), after each meal; any ulcerating surface is dusted with 4 per cent or 5 per cent powder or injected with 2 or 4 per cent solution daily Pain and foul odor disappear, the general health is improved, and years are added to life The patient must be cautioned that everything touched by the drug and also the urine will be stained blue.

Chicago Medical Recorder.

June.

74 *Conditions That Require the Removal of the Child from the Breast C B Reed Chicago
75 Etiology of Acute Articular Rheumatism G W Webster, Chicago
76 Treatment of Gallstone Diseases T. C. Kennedy, Shelbyville, Ind
77 *Treatment of Pulmonary Tuberculosis in Illinois J W Pettit, Ottawa, Ill
78 Indication for Eye Enucleation and Its Substitutes G Fiske, Chicago
79 Foreign Bodies in the Eye G G Burdick Chicago
80 *Inflammatory Conditions within the Abdomen and Thorax Differentiated from Appendicitis C J Whalen, Chicago

74—Published in *Surgery, Gynecology and Obstetrics*, May, 1908, and abstracted in THE JOURNAL, July 11, p 167.

77—Published in *Illinois Medical Journal*, June, 1908

80 **Abdominal Inflammatory Conditions**—Whalen says that the lesions most apt to simulate and hence to be confounded, with appendicitis are Salpingitis, ruptured pyosalpinx, ovarian cyst, strangulated by twisted pedicle, ovaritis and abscess of ovary, hematoma of broad ligament, cholecystitis, gallstone colic, perforated gastric ulcer, perforated intestinal ulcer due to typhoid fever, pneumonia and pleurisy, extrauterine pregnancy, intestinal obstruction, intussusception, volvulus, renal colic, retroperitoneal abscess, strangulated hernia. acute pancreatitis, enteritis, inflammatory conditions of the ileum or caput coli in the immediate vicinity of the appendix, psoitis Pott's disease, acute indigestion, cholera morbus ileocecal cancer, undescended testicle, twist and strangulation of omentum, diaphragmatic pleurisy, hypochondria, hysteria, neuralgia He describes cases illustrating various difficulties and discusses the differential diagnosis between the conditions referred to above and appendicitis.

Cleveland Medical Journal.

June

81 *Essential Hemorrhage of the Kidney F E Bunts, Cleveland
82 Points in the Treatment of Diseases of the Ear. J M Ingersoll Cleveland
83 Osteitis Deformans O A Weber Cleveland
84 Permanent Closure of Large Perforations in the Tympanic Membrane with Increase in Hearing W. B Chamberlin, Cleveland

81. **Essential Hemorrhage of Kidney.**—Bunts describes a case in which operation, falsifying the interpretation of a radiograph, showed nothing in the kidney, although subjective and objective symptoms disappeared thereafter He summarizes the literature of 70 cases and draws attention to the following facts 1. The cause of hemorrhage from the kidney can not be diagnosed, by present methods, in a large number of cases 2 It is probable that there is in most cases a distinct lesion, though the absence of sufficient microscopic examinations of the exposed kidney leaves this undetermined 3 Nephritis is the most frequently demonstrated cause of unilateral hemorrhage in this class of cases 4 Operation promises a cure in most cases The chief object of his paper is to emphasize the importance of removing at operation at least a sufficient amount of the kidney to permit of careful microscopic examination In this way only can we probably eliminate the large number of kidneys which have heretofore been reported as normal and at the same time relegate to its proper oblivion the misleading name of essential hemorrhage of the kidney

The Laryngoscope, St. Louis.

May

85 Vaccine Therapy in Some Suppurations of the Nose and Ear, Also Technic for Determining Opsonic Indices J. C Beck, Chicago
86 Labyrinthine Deafness with "Tone Island" G E. Shambaugh, Chicago
87 The Temporal Bone R J Held, New York
88 Primary Epithelioma of the Maxillary Antrum S J Kopetzky New York
89 Carcinoma of the Naso Pharynx and Sphenoid Region Which Responded to the Employment of Radium S Yankauer New York
90 Unrecognized Foreign Body in the Larynx E Martinez, Havana
91 Laryngeal Neoplasms in America J L Davis Philadelphia
92 Method of Preventing Hemorrhage During Adenectomy S Iglauer, Cincinnati
93 Hemorrhage Following Tonsillotomy with Cold Wire Snare C R Dufour, Washington D C
94 Severe Primary Hemorrhage Following the Removal of the Faucial Tonsil O J Stein, Chicago

95 Boy's Voice in a Man Which Was Made Normal by Singing Exercises W L Holt, Philadelphia
96 Nasal Septal Forceps S Goldstein, New York
97 New Procedure for the Correction of the Saddle Nose F E Waxham, Denver

Ophthalmic Record, Chicago.

June

98 Bullet Wounds of the Orbit and Its Surrounding Parts E R Williams Boston
99 Two Cases of Palsy of Extraocular Muscles in Graves Disease W C Posey Philadelphia
100 Toxic Symptoms Following the Instillation of Homatropin Hydrobromate C LeFevre Philadelphia
101 Blindness Following the Injection of Protargol in Lachrymal Sac F P Lewis Buffalo N Y
102 Improved Instrument to Shorten the Subjective Branch of Refraction J N Rhoads Philadelphia

Dominion Medical Monthly and Ontario Medical Journal, Toronto.

June

103 Master Minds in Medicine—John Hunter (1728 93), Great Man of Science and Surgeon W J Fischer

Journal of the Michigan State Medical Society, Detroit.

June

104 Opsonic Theory and Technic J Sill, Detroit
105 Psychic Treatment of Nervous Disorders C A Stimson Eaton Rapids
106 Curative versus Palliative Treatment of Hernia F B Walker Detroit
107 Historical Sketch of the Deceased Founders of the Detroit Academy of Medicine L Connor, Detroit
108 Bath Treatment at Mt Clemens for Nervous Patients R Leuschner, Mt Clemens

Journal of the Medical Society of New Jersey, Orange, N. J.

June

109 Modern Life and Its Effects on Types of Disease J T Rugh, Philadelphia
110 The Treatment of Gallstone Disease W H Lawrence, Jr, Summit N J
111 "Dyspepsia," What Does It Signify? E Marvel, Atlantic City

Iowa Medical Journal, Des Moines.

June 15

112 Cooperation of Public and Profession E E Munger Spencer
113 Possibilities of Organization C A Boice Washington D C.
114 Iowa Medical Laws and Their Enforcement L A Thomas, Des Moines
115 Operative Points F E Walker, Hot Springs S D
116 Medical Publicity F G Murray Cedar Rapids
117 Submucous Resection of the Nasal Septum for the Correction of Septal Irregularities W R Murray, Minneapolis

International Clinics, Philadelphia.

Vol II Eighteenth Series

118 Treatment of Scarlet Fever, Including Prophylactic Measures Necessary to Prevent Complications L Fischer New York
119 Treatment of Syphilis by Atoxyl H Hallopeau, Paris
120 Treatment by Inoculation of Bacterial Vaccines E Turton, Hull, Eng
121 Serum Treatment of Bacillary Dysentery Vaillard and Dopter, Paris
122 Treatment of Hemoglobinuric Fever W H Deaderick, Marianna Ark
123 Changes in Outlines of Heart, Diaphragm and Stomach During Phases of Respiration as Illustrated by X Ray R J Behan, Pittsburg
124 Valvular Heart Disease J G Cecil, Louisville Ky
125 Pain as Chief or Sole Expression of a Psychic State T Diller Pittsburg
126 Curiosities of Lead Poisoning J J Walsh, New York
127 Recurrent Temporary Amblyopia of Angiospastic Origin and Association of Retinal Angiospasm with Other Vasomotor Neuroses F P Weber London and R Gruber, London
128 Reconstructive Surgery of Face J B Roberts Philadelphia
129 Perinephritic Abscess in Children C G Cumston Boston
130 Symptoms and Diagnosis of Cancer of Large Intestine P L Mummery, London
131 Treatment of Varicose Ulcer and Varicose Veins of Leg A D Willmoth Louisville, Ky
132 Clinical Manifestations of Uterine Cancer J A Sampson, Albany N Y
133 Gonorrhea and Pregnancy E B Young, Boston
134 Pregnancy Complicated by Uterine Fibromata in a Hemiplegic L Frank, Louisville, Ky
135 After Treatment of Cataract Extraction W O Moore, New York
136 Vision in Some Eye Diseases L Buchanan, Glasgow
137 Rhinoscleroma W S Gotthell, New York
138 Congenital Scoliosis H Hudson Philadelphia
139 Marasmus, Inherited Syphilis, Subacute Bronchitis R B Gilbert Louisville, Ky
140 Atypical Forms of Malignant Renal [illegible] Their Chemical Characteristics H [illegible]
141 Recent Research into the Pathology [illegible] C E Simon, Baltimore

Vermont Medical Monthly, Burlington.

June 15

142 Anemias T McCrae Montreal
143 Paralysis Its Mechanical and Operative Treatment J C Wilson Hartford Conn
144 Acute Epigastric Pain W J Aldrich, H Johnsbury

Long Island Medical Journal, Brooklyn, N. Y.

June

145 Prognosis in Chronic Valvular Disease E E Cornwall, Brooklyn, N Y
146 Korsakoff's Psychosis O M Dewing, Brooklyn, N. Y.
147 Corpus Luteum of Gestation W L Chapman Brooklyn, N Y
148 Relationship Between Rheumatism and Chorea R S Cone, Brooklyn, N Y
149 Calculus Lodged in Ureter. R. Hazen, Brentwood, L I

FOREIGN.

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London.

July 4.

1 *Inborn Errors of Metabolism A E Garrod
2 *Thoracostomy in Heart Disease A Morison
3 Rare but Important Surgical Injuries Brought on by Violent Exercise P Haglund
4 *"Endemic Funiculitis" A Castellani
5 Abundance of Parasites in Fatal Pernicious Malaria J. Cropper
6 The Autonomic Nervous System in Acute Surgical Conditions A J Walton
7 Extirpation of the Lacrymal Sac O. J. Currie.
8 Extraction of Foreign bodies H Chitty.

1. **Inborn Errors of Metabolism.**—Garrod, in the first Croonian lecture, emphasizes the distinction between the terms "*congenital*" and "*inborn*" The former implies simply present at birth, while the latter implies hereditary transmission The only known anomalies which can at present be included in his subject are albinism, alkaptonuria, cystinuria and pentosuria. Theoretically any anomaly that claims a place in the group should be present from birth and should persist throughout life, though this can not as yet be asserted of all the four named above The evidence of congenital cystinuria is very difficult to obtain, but there is reason to believe that it is occasionally temporary or intermittent. The youngest pentosuric yet observed was a boy of 15. Albinism is probably no more common than the other inborn metabolic errors; Garrod believes cystinuria to be the least rare of the four. It stands to reason that an error of metabolism which persists from birth into adult life must be relatively innocuous Albinism is certainly harmless The most serious direct result of alkaptonuria is the peculiar pigmentation. Evidence is accumulating of the harmlessness of pentosuria; so that only cystinuria can be classed as actually injurious, and even its ill-effects are secondary, due, not to the metabolic error, but to the unsuitability of cystin for excretion by a mammalian genitourinary apparatus Garrod notes the proneness of each of these errors to occur in several members of a family, most often in collaterals of the same generation. To students of heredity these errors offer a promising though difficult field for investigation He discusses their relation to Mendel's law. The Mendelian recessive character of albinism has been well observed The resemblance of alkaptonuria thereto, in its mode of incidence in man, favors a similar conclusion in its case. Evidence is accumulating of the occurrence of pentosuria in brothers and sisters, and no instance of its transmission from parent to child has yet been recorded The frequency of direct inheritance and the large proportion of the offspring affected suggest that if cystinuria be transmitted on Mendelian lines, it is probably a dominant, rather than a recessive, characteristic. Garrod then discusses albinism at length.

2 **Thoracostomy in Heart Disease.**—Morison describes the case of a youth of 19 who had exaggerated aortic valvular disease, severe attacks of retrosternal pain, accompanied by quickening of pulse and heart beat and rise of systolic blood pressure, these phenomena subsiding with the pain. The cardiac action was heaving and concussive, the heart enlarged, and thrusting, not simply against a soft interspace, but against an unyielding rib A condition of erethism was thus induced, leading to the attacks Four and a half inches of the fifth rib and five and a half of the sixth were removed. The effect of the operation objectively and subjectively has been very satisfactory The carotid and suprasternal pulsation is less marked, the chest capacity is increased, the painful attacks have almost disappeared, and when present are much less severe. The patient, in answer to a question, considered

son further concludes from a review of this case that one cause, at least contributory to attacks of angina in aortic valvular disease with hypertrophied heart, is direct stimulation of the organ by systolic impact against costal resistance, and this may also be regarded as a cause of the premature failure of the hypertrophied heart so frequently observed in practice He discusses the objections and the relations of this view to the accepted notions of peripheral vasomotor constriction He holds that the alleviative effects of the nitrites support his suggested explanation in that they lead to an acceleration of the heart, with reduction of the cardiac output for each systole, so that a succession of small systoles has not the same concussion influence on the thorax as that induced by the slower and more powerful stroke of the enlarged heart in an erethetic condition

4 **"Endemic Funiculitis"**—Under this term Castellani describes an affection of the spermatic cord, endemic in Ceylon and perhaps elsewhere, which seems to him to have sufficiently characteristic symptoms to be ranked as a separate disease A diplococcus is constantly found in the pus but Castellani regards it from his experience as nothing more than a secondary agent only

British Medical Journal, London.

July 4

9 *Clinical Aspects of Pain W Bennett
10 *So Called Family Diseases Premature Physiologic Senescence Localized to Certain Organic Systems F Raymond
11 Abdominal Hysterectomy for Fibroids in London J Bland Sutton
12 *Etiology of Rickets L Findlay
13 Causes of Peritonitis During Pregnancy A Cuff
14 Mental Nerve Area and Greyness of Hair G L Cheatle
15 Streptococcus Infection of Eyelids Treated by Antistreptococcus Serum S Snell
16 *Value of Bilateral Ureterostomy (Short Circuiting of the Urine) in Advanced Cancer of Bladder or Prostate E H Fenwick

9 **Pain**—Bennett discusses the relation of pain to tenderness—pointing out that the absence of tenderness over the painful area does not exclude the possibility of its being present elsewhere, as *for instance, when acute pain about the* pit of the stomach in some diseases of the spinal column is associated with tenderness over the primary lesion, pain in relation to temperature and pulse the effect of pain on the general condition of the individual, the spontaneous disappearance of pain, acute or chronic, and shifting pain He emphasizes the three following cardinal points 1 No accurate estimate of the behavior of pain is possible in the absence of a careful study of the temperament of the patient 2 Sudden or rapid disappearance of pain should never be accepted without reserve on its own account as a sign of improvement 3 Sudden disappearance or rapid diminution of pain, unless it be coincident with proportionate improvement in the associated symptoms, is often a sign of impending disaster, and not an indication of recovery

10 **Family Diseases**—Raymond discusses the so called "family diseases" of the nervous system and the part played by heredity in these diseases He says that they can hardly be rightly described as diseases, for they are really "organic types abnormal from their very origin" exclusively created by the parents, by the ancestors, and developing quite apart from any external influence, for we see several brothers and sisters who have lived in widely different conditions developing at the same age the same disease These diseases are not however, always repeated in several members of the same family The different clinical types which constitute them are not found to be identically the same in all cases It seems as if each family had its own way of working out the family disease Raymond discusses progressive muscular atrophy in its various types, which after differentiation are now proclaimed again as essentially one due to the degeneration of certain organic segments of the neuromuscular system The same demonstration can be made in regard to other family diseases, notably the hereditary ataxias Raymond classifies these as follows 1 A spinal form, with loss of reflexes scoliosis, and club foot added to the common syndrome This would be the Friedreich type 2 A cerebellar form with atrophy of the optic nerves vertigo mental disturbances added to the common syndrome, forming the Marie type 3 A bulbar form, with vomiting dyspnea and cardiac arrhythmia 4 A bulbo pontine form characterized by auditory disturbances 5 A generalized form, as in Menzel's case These are all different types, but they are all linked together by the common cerebellar syndrome It is most important to recognize accurately the family character of a disease whatever be the disease and its localization The morbid anatomy is characterized by the absence of any inflammatory reaction The lesion consists simply in the disappearance of a system of cells or fibers which dissolve as it were without leaving a trace Connective tissue growth then occurs and fills the void by taking the place of the cellular system that has disappeared The process is very different from the conception of real battle between invaders and defenders which modern conceptions ascribe to diseases also from the less boisterous, but equally earnest attack of poisons or toxins causing our cells to decay and modifying our body fluids and from the traumatic changes about a tumor or a hemorrhagic area or the massive necrosis of ischemia The symptoms depend entirely on the physiologic functions of the tracts or cells that are doomed and gradually disappearing The course of the disease Raymond describes as follows The onset is slow and insidious, so that it is impossible to state accurately at what moment the trouble began The course is always progressive There is never any retrocession, never does a symptom fade or disappear when once it has appeared Sometimes the course is hastened under the influence of certain causes (nearly always toxic or infectious) The patient is doomed from the very instant of his conception as soon as spermatozoon and ovum have united Now, this we can prevent by forbidding marriage to those individuals who bear a hereditary stigma We must never forget that a physician must try to prevent at least as much as cure Prevention moreover, is easier than cure From the standpoint of prevention it may be, therefore of the highest practical importance to know the circumstances which give rise to family diseases In the first place, we must inquire into the etiologic factors, such as we find them in the detailed reports on which has been built the history of these diseases Unfortunately, at the present time we can trace but their outline The problem may, however, be somewhat simplified by the following considerations, which, it seems have not sufficiently engaged the attention of observers hitherto The perfect development of a germ supposes in the first place the existence in that germ of its own attributes In the human species the germ arises from the union of the spermatozoon with the ovum, and these must necessarily possess certain qualities for the germ to be able to develop A favorable medium is particularly indispensable The nerve cell naturally takes it share of the qualities of the primary germ cell born of the union of the spermatozoon with the ovum Raymond insists on the fact that up to the very time of conception the modifications of the parent cells may have a very decided influence on the daughter cell, the germ Among causes modifying the spermatozoon or ovum he mentions inebriety in the parents, poisons – such as cantharides—suggestion, great mental shock, or even the memory of such He points, in illustration, to the case of a syphilitic man, who either begets no children or his wife aborts Yet by the use of mercury by the syphilitic parent his inner medium is restored to normal and he begets a healthy child An inquiry into the causes of family diseases is a most difficult enterprise, for it must go carefully into the circumstances that have modified the health of the parents before they conceived, it must include the question of opposition or synergy of hereditary taints, it must find out the possible disturbances of the maternal medium during pregnancy it must examine the hygiene of the children, etc All those points must be minutely investigated if we are to get at the truth He thinks that for the purposes of a general classification these diseases should be grouped under the heading 'Premature Physiologic Senescence of Certain Organic Systems

12 **Rickets**—Findlay discusses the various etiologic theories and reports a series of experiments of his own which lead him to the following conclusions 1 Not one of the many theories which have been elaborated to explain the cause of

rickets has been universally accepted, and they all lack, not only from the clinical, but also from the experimental aspect, unequivocal proof. 2. It is some error in feeding which, in this country and America, is commonly believed to bring about the disease, but it is doubtful, however, if feeding plays any important part in the etiology of rickets. Experimentally, he, like several other observers, has been unable to cause the condition by improper feeding. 3. By confining young dogs and depriving them of exercise, rickets has been invariably induced, as in the experiments detailed, and that although their diet was a normal one, the air which they breathe pure, and their kennels were kept scrupulously clean, whereas control animals allowed exercise, but otherwise similarly treated, did not become affected. 4. Examination of the conditions under which rachitic children are reared, reveals one constant and invariable factor in their lives, namely, confinement. Alike, then, on clinical and experimental grounds, he accordingly concludes that confinement, with consequent lack of exercise, is the main factor in causing the disease.

16. **Bilateral Ureterostomy.**—Fenwick advances the following propositions: 1. What can be done for uncontrollable and luxuriant benign villous growth of the bladder, in which the patient suffers from exhausting hemorrhage or uncontrollable pain, or is commencing to suffer from ascending septic changes along the ureters? In such a case he agrees that bilateral nephrostomy, or better still, ureterostomy, should be performed, and a fortnight later the bladder should be removed—if the patient's physical condition and future seem to permit of this mutilation. 2. If the bladder is affected by interstitial cancer, which has so invaded the surrounding areas that no chance remains of removing the organ, he submits that bilateral ureterostomy is wiser, for this will relieve the patient of the agony of urination. 3. If malignant disease is detected in its early stages, as it can be by the cystoscope, it is wiser to perform double ureterostomy; and if the physical and renal condition of the patient permits, let the bladder, with or without the prostate and seminal vesicles, be entirely ablated.

Clinical Journal, London.

July 1.

17 Vermiform Appendix as a Pelvic Organ. J. Bland-Sutton.
18 *Interrelations of Abdominal and Thoracic Diseases. W. H. Allchin. (Concluded.)
19 Rheumatoid Arthritis. H. E. Symes-Thompson.

18. **Abdominal and Thoracic Diseases.**—Allchin, in this paper which was begun in the issue of June 24, discusses some inter-relationships, both structural and functional, between maladies as they affect the chest and abdomen. The problems presented by the heart and lungs, in their abnormal, as in their normal, working are predominantly physical, while the organs subserving digestion and excretion are much less susceptible of physical investigation, since their workings are so largely chemical in character. In the abdomen the sense of touch—the *tactus expertus*, and still more the *tactus eruditus*—is far more important and helpful than percussion, while auscultation is scarcely applicable at all. Allchin discusses the structural mechanism on which this mutual involvement depends—the parietal components, the vascular connections, the lymphatic connection, the innervation, and the diaphragm, round the respiratory movements of which the clinically most important functional relation between chest and belly centers. Contrary to what might be expected, inflammatory conditions do not readily spread from one cavity to the other, just as pleurisy of one side rarely involves the other side or the pericardium. While pneumonia may lead to pleurisy, the spread in the reverse direction is unknown. Pleurisy may be only complication of an acute peritonitis, but it is very uncommon. Acute suppurative peritonitis, however, is a common terminal affection in Bright's disease. Allchin discusses the condition variously known as "multiple progressive hyaloserositis," or "polyserositis," which he calls "a chronic morbid state that progressively involves the serous surfaces on both sides of the diaphragm, contrasting therein with the acute inflammatory changes in these regions." A right-sided pleurisy is occasionally met with in association with gallstones. He emphasizes the very distinctly protective power exerted by the serous membranes. A very numerous and important group of cases in which the thoracic and abdominal cavities are mutually implicated, is characterized by purulent collections on one or other side of the diaphragm, constituting empyema or pyopericarditis, in the chest, and those conditions included within the comprehensive term "subdiaphragmatic abscess," in the abdomen. Turning now to the spread of new growths from the one cavity to the other, it is at least singular that in the case of malignant growths there should be such a preponderance from the chest toward the abdomen, rather than in the reverse direction, as obtains in the other morbid states considered. He next describes the ways in which vascular disturbance in one region may affect that in the other; cases in which, with structural disease in one region there is a purely symptomatic involvement of the other without any gross anatomic change, especially the simulation on the one hand, of abdominal disease (irritant poisoning, appendicitis, acute peritonitis, perforation of gastric or duodenal ulcer, gallstone) by basic pneumonia, pleuropneumonia, empyema and pyopneumothorax; and, on the other, the cardiac and respiratory disturbances of abdominal origin.

Medical Press and Circular, London.

July 1.

20 Physical Examination of the Stomach. T. P. C. Kirkpatrick.
21 *Syphilis. H. Waldo.
22 Austrian Tyrol as a Health Resort. D. Walsh.
23 *Treatment of Corneal Ulcerations. C. G. Lee.

21. **Waldo.**—Published in *Bristol Medico-Chirurgical Journal*, December, 1907.

23. **Corneal Ulcers.**—Lee describes two types of ulcer: 1. That in which a slow and insidious destruction of tissue takes place; and 2, that which spreads more rapidly, less deeply, and with pus formation. In either type he has found the following instillation, ascribed by him to Richard Williams, useful.

R.	Quininæ bisulphatis, Atropinæ sulphatis, āā	13	or āā gr. ii
	Aquæ destillatæ	15	fl3iv

M. et. Sig.: Three or more drops to be placed inside the eyelid every four hours.

Should the ulceration be situated at the periphery of the cornea, eserin sulphate grain i (0.065), should be substituted for the atropin. These drops, with a 1 to 5,000 mercury bichlorid lotion, may suffice for mild cases. With severe primary infection or in persistent cases, the scalpel and cauterization (the actual cautery at a dull red heat is preferable) must be used. A few drops of a solution of fluorescin inside the eyelid will define the diseased area by tinting it green. If this fails, Darier's method, subconjunctival injections of mercury oxycyanid, 1 to 1,000 of water, must be tried. About 30 minims are injected.

Practitioner, London.

July—†Health Resorts and Climatic Treatment Number.

24 Climates for the Aged. H. Weber.
25 Health Resorts and Climates for Children. J. W. Carr.
26 *Change of Air in Young Adult Life and Early Middle Age. F. P. Weber.
27 Treatment of Pulmonary Tuberculosis. A. Latham.
28 *Evolution of the Preventorium. W. Ewart.
29 Saline Treatment of Scrofulous Lesions. F. Engelmann.
30 Climate and the Nose. G. Macdonald.
31 Ems Treatment of Respiratory Catarrhs. A. Vogler.
32 Spa Treatment of Heart Affections. J. Mackenzie.
33 Treatment of Gout. W. Weintraud.
34 Zander Method of Treatment. G. Hamel.
35 Configuration, Meteorology, and General Health of Midland Counties of England. P. Horton-Smith-Hartley.

†Besides the articles enumerated above, this issue of the *Practitioner* contains articles on the Climatic and Health Resorts of England, Scotland and Ireland, by A. G. R. Foulerton, J. T. C. Nash, A. P. Luff, G. A. Bannatyne, W. Edgecombe, H. N. Forbes, W. Williams, F. J. Charteris and J. A. Lindsay; on The Influence of High Altitudes, W. R. Huggard; The Three Estorils (Portugal), G. H. Brandt; Gibraltar, Algeciras, Ronda, W. Turner; Italian and Swiss Lakes, E. C. Hort; Italian Mediterranean Sea Coast, M. Foster; Health with that the results obtained fully justified the operation. Mori-

Pleasure in Norway, P. H. Hadfield; Some Renal Spas, L. Williams; The Spas of France, Belgium, Germany, and the Austrian Empire, by various authors; Health Resorts in Canada, A. Macphail; The West Indies, J. A. Coutts; The Canaries, F. Lishman; Voyages to the East, A. Chaplin; Egypt and North Africa, H. E. Leigh Canney, and Health and Travel in South Africa, C. M. Murray and W. A. Hayes.

26. **"Change of Air."**—Weber says that many complaints are cured by "change of air," "change of place," or "going for a holiday," undertaken either with or without the physician's advice. The factors that produce the beneficial effect, he believes to be: 1, A more open air life; 2, more muscular exercise (walking, etc.); 3, mental factors. The preliminary symptoms complained of include headaches, loss of appetite, disorders of sleep, lassitude, relative inability to do mental work, neuralgic pains in various parts, constipation, and (above all others) dyspeptic troubles. Among the most striking and uniform results of "change of air" in such cases are the removal of the dyspeptic troubles and "clearance of cobwebs" from the brain. Foremost among other disorders favored by a sedentary life in town, Weber places various gastrointestinal troubles. In cases of various kinds in which the treatment advised, or part of the treatment advised, consists in a holiday with change of air or a visit to some particular health resort, it is not unusual, especially after everything has been seemingly arranged, to hear: "Is it absolutely necessary to take a holiday? For it is most inconvenient to have to leave my work now!"—or "What will happen if I can not leave London now?" What really happens in many cases when the advice is not carried out is that the patient soon begins to feel better. The reason for this, Weber believes, is not far to seek. Everybody has his "ups and downs" or longer "waves" of vital activity (evidenced by capacity for work, etc.), which may to some extent be compared to the shorter rhythmical daily waves of body temperature and waves of sleep; but, in many conditions of chronic ill health, these (longer) waves of alternating vital depression and buoyancy, which normally should be scarcely noticeable, become exaggerated. Probably what usually occurs is that medical advice is sought during the period of greatest vital depression. Hence, even if the treatment recommended be not carried out, the patient is often likely to begin to feel better soon after the consultation, when the commencement of the period of relative buoyancy is due. Yet if this view be correct, the disadvantage of putting off the treatment is obvious, even should there be no actual danger to life in doing so, for, the cause of ill health (e. g., too continuous sedentary brainwork in town) not being got rid of, the mean level of vital power and health tends to sink, or else the waves of depression tend to become still further exaggerated.

28. **Preventoria.**—Commented on editorially in this issue.

Indian Medical Gazette, Calcutta.

June.

36 Typhus in Northern India. J. Husband and R. C. MacWatters.
37 Outbreak of Typhus in Peshawar. E. C. Hepper.
38 Dementia Precox in India. G. F. W. Ewens.
39 *Cataract Extraction. R. H. Elliot.
40 *Uses of Appendicostomy. C. C. Barry.
41 Kala-Azar in Patna. B. B. Bosu.
42 Multilocular Cyst of the Neck in an Infant. C. F. Schaffter.

39. **Cataract Extraction.**—Elliott describes the routine at the Government Ophthalmic Hospital, Madras, including the Herbert technic for antiseptic treatment of the conjunctiva before operation. He cites the hospital records to show the vast decrease in all complications that has ensued in the five years subsequent to its introduction. He adds 22 short rules for the guidance of beginners, intended to obviate those mistakes that he has found to be made by nearly every one who has not had a large experience in the operation.

40. **Appendicostomy.**—Barry urges that this operation provides the most efficient means for thoroughly washing out the large bowel without undue distention or discomfort; that when once the operation has been performed, the further treatment of the case can be left with fair confidence to less skilled assistants; that in practically all cases great relief is afforded to the patient, and in many, actual cure is either brought about or greatly accelerated; that the dangers and difficulties of the operation are not such as can counterbalance the advantages that may be reasonably expected in suitable cases. But he also insists that the procedure is no panacea for all ills of the large bowel, and should be adopted only after careful judgment and after a fair and proper trial of the other more usual, and perhaps less attractive, medicinal measures.

Glasgow Medical Journal.

July.

43 Course of Cerebello-Olivary Fibers in a Case of Tuberculosis of Spinal Cord and Medulla. T. K. Monro and L. Findlay.
44 Hypertrophic Stenosis of Pylorus in an Infant. W. K. Hunter.
45 Unusual Mediastinal Tumor. W. MacLennan.
46 Intracystic Papilloma of an Accessory Thyroid. A. MacLennan and J. S. Dunn.

Annales de l'Institut Pasteur, Paris.

May 25, XXII, No. 5, pp. 370-464.

48 Efforts to Eradicate Malaria in Algiers. (Études épidémiologiques et prophylactiques du paludisme.) E. Sergent.
49 Action of Tyrosinase on Tyrosine. (Recherches sur la mélanogénèse.) G. Bertrand. Id. (Sur la façon dont la tyrosinase agit sur la tyrosine racémique.) G. Bertrand and M. Rosenblatt.
50 Leucocidins and Hemolysins in Anaerobic Cultures. P. Eisenberg.
51. Preservation of Plague Bacillus in Body of Bedbug. (Conservation du bacille pesteux dans le corps des punaises.) V. Jordansky and N. Kladnitsky.
52 *Causes of Failures in Treatment of Hydrophobia. (Causes d'insuccès du traitement antirabique.) Pampoukis.

52. **Causes of Failure in Treatment of Hydrophobia.**—THE JOURNAL has previously called attention to Pampoukis' warning, which he here reiterates, that severe chilling of the body or abuse of alcohol is liable to bring on hydrophobia after a course of Pasteur treatment which otherwise would have averted the disease. In the eleven failures among 4,524 patients given a course of treatment at the Athens Pasteur Institute five were in individuals thus exposed. One swam a river, another resumed cold douches, another was soaked in a rain storm, and another slept out of doors one night. The symptoms of hydrophobia developed in each case the day after the exposure. In 2 other cases, they appeared a day or so after the men had had a drinking bout. He warns therefore that extreme hygienic precautions are necessary for at least three months after the inoculations.

Annales de Médecine et Chirurgie Infantiles, Paris.

June 15, XII, No. 12, pp. 397-432.

53 Osteitis of Lower Jaw Simulating Sarcoma. Anaerobic Microbes. Broca, J. Hallé and Guillemot.
54 The Seashore and Brine Baths in Tuberculous Glandular Disease. (Action combinée du traitement marin et de la cure chlorurée-sodique dans la tuberculose ganglionnaire.) H. Richardière.

Bulletin de l'Académie de Médecine, Paris.

June 23, LXXII, No. 25, pp. 715-743.

55 *Semiologic Importance of Leukoplakia of Cheeks and Commissures, the So-called Smokers' Patches. (Valeur sémiologique des leucoplasies des joues et des commissures, dites "Plaques des fumeurs.") L. Landouzy.

55. **Differential Importance of Leukoplakia of the Mouth.**—Landouzy is convinced that buccal leukoplakia is much more common than generally realized. The use of tobacco is by no means indispensable for its production, the principal factor being syphilis. The latter can be discovered in nearly every case of leukoplakia, and on the other hand this lesion is extremely frequent in acknowledged syphilitics. The determining part played by syphilis should be recognized, he declares, even in the most attenuated forms of these whitish opaline, onion skin or dull mother-of-pearl patches on the inner surface of the cheeks and commissures. He gives an illustrated description of a few cases in which the discovery of the whitish patch cleared up the diagnosis and allowed effectual treatment when there was nothing else to suggest syphilitic infection. Some of the patients were women who had never smoked; the leukoplakia is thus not necessarily the work of tobacco, although the latter is *probably a powerful* contributing factor. One of his female patients showed merely a slight whitish line at one commissure, but mercurial treatment tentatively administered relieved the headache and

other symptoms of which she had been complaining, the benefit confirming the assumed syphilitic origin

Obstétrique, Paris

June N S I, No 3 pp 289 352

56 *Suppurative Meningitis in the Puerperium I Commandeur
57 Breast Nursing from the Quantitative Point of View (La sécrétion lactée considérée au point de vue quantitatif) Planchu and Gardère

56 **Suppurative Meningitis in Puerperæ**—Commandeur has been able to collect fifteen cases of suppurative cerebral and cerebrospinal meningitis toward the close of pregnancy omitting all of tuberculous origin The emptying of the uterus spontaneous or artificially induced has no influence on the course of the disease On the other hand the child does not seem to be affected by the mother's meningitis and does not die until after her death, as a rule This imposes the necessity for saving the child by artificial extraction in every case of acute meningitis with a living child after the seventh month He summarizes the cases on record The meningeal suppuration was primary in 10 cases in 4 it complicated pneumonia, puerperal staphylococcus septicemia or otitis The primary cases showed the unmistakable influence of influenza infection The meningitis occurred nearly at term or in the first three days after delivery in almost all the cases None was correctly diagnosed during life eclampsia being generally suspected The headache in meningitis is peculiarly intense, without remissions, constantly progressing, while the headache in eclampsia is often irregular in its course and intensity and is sometimes accompanied by subjective disturbances in vision The convulsions in eclampsia are not localized in certain groups of muscles of the head and members, like the convulsions of meningitic origin There is a difference also in the continuity of the coma The delirium in meningitis is frequently violent, sometimes furious, a condition which is not observed in eclampsia Albuminuria may be present in both, but in meningitis the amount of urine is generally normal and there is no concomitant edema Pupil anomalies, especially inequality of the pupils, speak in favor of meningitis, as also a turbid cerebrospinal fluid Lumbar puncture in eclampsia generally brings a limpid fluid In the ten cases in which the duration of the disease is mentioned, it proved fatal in one or two days in several, and never lasted for more than five days Two living children were saved by an obstetric operation *in extremis*

Presse Médicale, Paris

June 24, XVI, No 51, pp 401 408

58 Epidemiology and Bacteriology in Fight against Typhoid Fever L Tanon
59 Inconveniences of Ethyl Chlorid in General Anesthesia L Camus

June 27, No 52, pp 409 416

60 *Differential Value of Leukoplakia L Landouzy
61 *Infectious Ulcerations of the Fingers L Queyrat.
62 Tuberculosis of Pharynx M Letulle

60 See abstract No 55 above

61 **Infectious Ulcerations of the Fingers**—Queyrat has encountered eight cases of syphilitic chancre on the finger simulating paronychia, most of which had been erroneously diagnosed and treated In one case the chancre simulated a felon In another case a young dentist accidentally drove into his finger the point of a probe which he had just been using on the tooth of a casual patient and had not had time to clean Five weeks later the typical chancre developed at the spot, although the wound had been supposedly disinfected at once with mercury bichlorid and had healed The case shows the necessity for introducing the point of the actual cautery into the depths of such a wound repeating the cauterization several times This would certainly have destroyed the specific spirochetes, which have little resisting power Superficial disinfection is of no use He illustrates further some cases of soft chancre, dwelling on the differentiating points The ulceration is painful and bleeds on pressure, the skin around is blue and swollen and the glands may be inflamed These soft chancres on the fingers last from one to three months When other means of differentiation fail autoinoculation with scrapings from the sore induces in forty eight hours the formation of another pustule with ulceration about the fifth day Another illustration shows an ulceration which followed a cut in the thumb from a knife just picked up in the street The ulceration was diagnosed and treated as a syphilitic chancre for more than a month, with no improvement Queyrat then differentiated the case as one of acute tuberculous ulceration, on account of the raising up of the edges, their sharp contour and bluish red tint The bottom of the ulceration was irregular and knobby, with yellowish pus in the depressions When a sheet of glass was pressed on the surface, several yellow spots could be seen through it There was also some osteitis, and the tubercle bacillus could be cultivated from the lesion He tried to save the thumb with general antituberculosis treatment and local thermocauterization, followed by application of 30 per cent creosoted glycerin and hour baths of the arm in oxygenated water morning and evening After two months and a half of this unremitting treatment, the lesion is now almost entirely healed

Semaine Médicale, Paris

June 24, XXVIII, No 26, pp 301 312

63 Modifications in Blood Serum from Heating it (Modifications du serum sanguin par le chauffage) H Sachs
64 Appliance for Reducing Hump in Pott's Disease (Traitement de la gibbosité du mal de Pott) E Estor
65 Present Status of Notification of Transmissible Disease (Où en est en France la question de la déclaration obligatoire des maladies épidémiques?) F. Widal

July 1, No 27, pp 313 324

66 *Development of Cirrhosis of the Liver (La lésion parenchymateuse et les processus de cirrhose du foie) N Fiessinger

66 **Cirrhosis of Liver.**—Fiessinger reports extensive experimental research which reconciles the interstitial and the parenchymatous theories of the development of cirrhosis of the liver. The anatomic evolution is complex The cicatricial, biliary, vascular and pericellular processes are combined in various proportions, and both the interstitial and the parenchymatous tissues are involved He thinks that previous contradictory findings are due to pre existing lesions in the liver in the animals A scrap should be taken from the liver through a minute incision in the epigastrium beforehand, to eliminate error from this source

Deutsches Archiv fur klinische Medizin, Leipsic.

June, XCIII, No 4, pp 331 457 Last Indexed, July 4 and 11, pp 83 and 174

67 Action of Chinoline Carbonates and their Derivatives on Elimination of Uric Acid (Wirkung von Chinolincarbonsäuren und ihrer Derivate auf die Ausscheidung der Harnsäure) A Nicolaier and M Dohrn
68 *Experimental Research on Amount of Blood in Human Beings [illegible] ichungen) H. P T Oerum
69 [illegible] Human Muscles (Zur patho [illegible] enschlicher Skelettmuskeln und zur Funktion des Herzmuskels)
70 * [illegible] monia (Kochsalzstoffwechsel bei Pneumonie) H v Hösslin
71 Experimentally Induced Cirrhosis of Liver (Experimentell erzeugte Lebercirrhose) Fischler
72 Pepsin Digestion (Zur Kenntnis der Pepsinverdauung) H Fischer

68 **Quantitative Research on the Blood**—Oerum's extensive study of the amount of blood in human beings commends the carbon monoxid method for research on the blood, with an illustrated description of the apparatus used He says in regard to chlorosis that it is a specific disease of females, which appears during the periods when the genital apparatus is undergoing transformation Its essence is an increased amount of blood The amount of hemoglobin is materially reduced and it is this proportional reduction of the hemoglobin which occasions the morbid phenomena The number of corpuscles may be normal It is seen on reflection that all the measures which prove effectual in chlorosis act by reducing the amount of blood He describes experimental researches which show that the blood pressure is the determining factor for the changes in the amount of blood He also discusses the various types of anemia and the effect of light on the blood

70 **Salt Metabolism in Pneumonia**—Hosslin tabulates the findings in ten cases of pneumonia They all show great retention of salt The salt is not accumulated at any one point but is diffusely distributed The assumption of a relative insufficiency on the part of the kidneys has much in its favor, he thinks

Deutsche medizinische Wochenschrift, Berlin

June 25, XXXII, No 26, pp 1129 1168

73 *Resection of Joints (Knochengelenkresektionen) W Muller
74 *Arsenic Treatment of Experimental Nagana Weber and Fuerstenberg
75 *Etiology and Treatment of Chronic Conjunctivitis Elschnig
76 *To Clear the Cornea of Opacity from Metallic Caustics (Aufhellung der durch metallische Aetzgifte verursachten Hornhauttrubung) A Guillery
77 *Treatment of Puerperal Bacteriemia (Bewertung gewisser Behandlungsmethoden der Bakteriamien des Kindbettes) O v Herff Commenced in No 24
78 Comparison of Technics for Measurement of Blood Pressure (Die auskultatorische Blutdruckmessung im Vergleich mit der oscillatorischen von H v Recklinghausen und ihr durch die Phasenbestimmung bedingter klinischer Wert) J Fischer
79 Degrees of Ataxia in Right Hemiplegia (Relative Eupraxie bei Rechtsgelahmten) S Meyer
80 Local Tetanus and its Origin (Der lokale Tetanus und seine Entstehung) L Zupnik
81 Speculum for Vagina with Intact Hymen M Wassermann

73 **Resection of Joints**—Muller remarks that the necessity for after treatment to restore function by exercises massage, electricity, etc is universally recognized now but the principle is not applied in practice to an ideal extent by any means Local disinfection even in suppurative cases has been much promoted by the application of concentrated carbolic acid, rinsed off with alcohol followed with a salicylic dusting powder He prefers to pack the wound loosely with gauze, regarding tamponing as harmful for suppurating wounds In all primary aseptic cases he seals up the wound ready to open it at the first sign of trouble He does not agree with those who shrink from resection if the patient is over 50 Spinal anesthesia has enlarged the field for these operations, especially on the legs

74 **Arsenic Treatment of Trypanosoma Affections**—Weber found that nagana in small animals could be cured by a combination of two preparations of arsenic, when one alone proved ineffectual

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Medizinische Klinik, Berlin

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Obstétrique, Paris.

June, N S I, No 3 pp 289 352

56 *Suppurative Meningitis in the Puerperium F Commandeur
57 Breast Nursing from the Quantitative Point of View (La sécrétion lactée considérée au point de vue quantitatif) Plauchu and Gardère

56 **Suppurative Meningitis in Puerperæ.**—Commandeur has been able to collect fifteen cases of suppurative cerebral and cerebrospinal meningitis toward the close of pregnancy omitting all of tuberculous origin The emptying of the uterus, spontaneous or artificially induced, has no influence on the course of the disease On the other hand, the child does not seem to be affected by the mother's meningitis and does not die until after her death, as a rule This imposes the necessity for saving the child by artificial extraction in every case of acute meningitis with a living child after the seventh month He summarizes the cases on record The meningeal suppuration was primary in 10 cases, in 4 it complicated pneumonia, puerperal staphylococcus septicemia or otitis The primary cases showed the unmistakable influence of influenza infection The meningitis occurred nearly at term or in the first three days after delivery in almost all the cases. None was correctly diagnosed during life, eclampsia being generally suspected The headache in meningitis is peculiarly intense, without remissions, constantly progressing, while the headache in eclampsia is often irregular in its course and intensity. and is sometimes accompanied by subjective disturbances in vision The convulsions in eclampsia are not localized in certain groups of muscles of the head and members, like the convulsions of meningitic origin There is a difference also in the continuity of the coma The delirium in meningitis is frequently violent, sometimes furious, a condition which is not observed in eclampsia Albuminuria may be present in both, but in meningitis the amount of urine is generally normal and there is no concomitant edema. Pupil anomalies, especially inequality of the pupils, speak in favor of meningitis, as also a turbid cerebrospinal fluid Lumbar puncture in eclampsia generally brings a limpid fluid In the ten cases in which the duration of the disease is mentioned, it proved fatal in one or two days in several, and never lasted for more than five days Two living children were saved by an obstetric operation *in extremis*.

Presse Médicale, Paris.

June 24, XVI, No 51, pp 401 408

58 Epidemiology and Bacteriology in Fight against Typhoid Fever L Tanon
59 Inconveniences of Ethyl Chlorid in General Anesthesia. L Camus

June 27, No 52, pp 409 416

60 *Differential Value of Leukoplakia L Landouzy
61 *Infectious Ulcerations of the Fingers L. Queyrat.
62 Tuberculosis of Pharynx M Letulle.

60 See abstract No 55 above.

61. **Infectious Ulcerations of the Fingers.**—Queyrat has encountered eight cases of syphilitic chancre on the finger simulating paronychia, most of which had been erroneously diagnosed and treated. In one case the chancre simulated a felon In another case a young dentist accidentally drove into his finger the point of a probe which he had just been using on the tooth of a casual patient and had not had time to clean Five weeks later the typical chancre developed at the spot, although the wound had been supposedly disinfected at once with mercury bichlorid and had healed The case shows the necessity for introducing the point of the actual cautery into the depths of such a wound, repeating the cauterization several times. This would certainly have destroyed the specific spirochetes, which have little resisting power. Superficial disinfection is of no use. He illustrates further some cases of soft chancre, dwelling on the differentiating points. The ulceration is painful and bleeds on pressure, the skin around is blue and swollen and the glands may be inflamed These soft chancres on the fingers last from one to three months When other means of differentiation fail, autoinoculation with scrapings from the sore induces in forty-eight hours the formation of another pustule, with ulceration about the fifth day. Another illustration shows an ulceration which followed a cut in the thumb from a knife just picked up in the street. The ulceration was diagnosed and treated as a syphilitic chancre for more than a month, with no improvement. Queyrat than differentiated the case as one of acute tuberculous ulceration, on account of the raising up of the edges, their sharp contour and bluish red tint. The bottom of the ulceration was irregular and knobby, with yellowish pus in the depressions. When a sheet of glass was pressed on the surface, several yellow spots could be seen through it. There was also some osteitis, and the tubercle bacillus could be cultivated from the lesion. He tried to save the thumb with general antituberculosis treatment and local thermocauterization, followed by application of 30 per cent. creosoted glycerin and hour baths of the arm in oxygenated water morning and evening. After two months and a half of this unremitting treatment, the lesion is now almost entirely healed.

Semaine Médicale, Paris.

June 24, XXVIII, No 26, pp 301-312

63 Modifications in Blood Serum from Heating It. (Modifications du serum sanguin par le chauffage.) H Sachs
64 Applianc [illegible] in Pott's Disease (Traitement [illegible] le Pott) E Eston.
65 Present [illegible] Transmissible Disease (Où en est [illegible] de la déclaration obligatoire des maladies (épidémiques?) F. Widal

July 1, No. 27, pp 313-324

66 *Development of Cirrhosis of the Liver. (La lésion parenchymateuse et les processus de cirrhose du foie.) N. Fiessinger.

66. **Cirrhosis of Liver.**—Fiessinger reports extensive experimental research which reconciles the interstitial and the parenchymatous theories of the development of cirrhosis of the liver. The anatomic evolution is complex. The cicatricial, biliary, vascular and pericellular processes are combined in various proportions, and both the interstitial and the parenchymatous tissues are involved. He thinks that previous contradictory findings are due to pre-existing lesions in the liver in the animals. A scrap should be taken from the liver through a minute incision in the epigastrium beforehand, to eliminate error from this source.

Deutsches Archiv fur klinische Medizin, Leipsic.

June, XCIII, No. 4, pp. 331-477 Last Indexed, July 4 and 11, pp 83 and 174

67 Action of Chinoline Carbonates and their Derivatives on Elimination of Uric Acid. (Wirkung von Chinolincarbonsäuren und ihrer Derivate auf die Ausscheidung der Harnsäure.) A Nicolaier and M. Dohrn
68. *Experimental Research on Amount of Blood in Human Beings [illegible] chungen) H. P. T. Oerum
69. [illegible] Human Muscles (Zur patho- [illegible] menschlicher Skelettmuskeln und zur Funktion des Herzmuskels) L. Rautenberg
70 *Metabolism of Salt in Pneumonia. (Kochsalzstoffwechsel bei Pneumonie) H v Hosslin
71 Experimentally Induced Cirrhosis of Liver. (Experimentell erzeugte Lebercirrhose) Fischler
72 Pepsin Digestion. (Zur Kenntnis der Pepsinverdauung.) H. Fischer.

68 **Quantitative Research on the Blood.**—Oerum's extensive study of the amount of blood in human beings commends the carbon monoxid method for research on the blood, with an illustrated description of the apparatus used. He says in regard to chlorosis that it is a specific disease of females, which appears during the periods when the genital apparatus is undergoing transformation. Its essence is an increased amount of blood. The amount of hemoglobin is materially reduced, and it is this proportional reduction of the hemoglobin which occasions the morbid phenomena. The number of corpuscles may be normal. It is seen on reflection that all the measures which prove effectual in chlorosis act by reducing the amount of blood. He describes experimental researches which show that the blood pressure is the determining factor for the changes in the amount of blood He also discusses the various types of anemia and the effect of light on the blood.

70. **Salt Metabolism in Pneumonia.**—Hosslin tabulates the findings in ten cases of pneumonia They all show great retention of salt The salt is not accumulated at any one point, but is diffusely distributed. The assumption of a relative insufficiency on the part of the kidneys has much in its favor, he thinks.

Deutsche medizinische Wochenschrift, Berlin.

June 25, XXXIV, No 26, pp. 1129 1168

73 *Resection of Joints (Knochengelenkresektionen) W Muller.
74 *Arsenic Treatment of Experimental Nagana. Weber and Fuerstenberg
75 *Etiology and Treatment of Chronic Conjunctivitis Elschnig
76 *To Clear the Cornea of Opacity from Metallic Caustics (Aufhellung der durch metallische Aetzgifte verursachten Hornhauttrübung) A Guillery
77 *Treatment of *Puerperal Bacteriemia* (Bewertung gewisser Behandlungsmethoden der Bakteriämien des Kindbettes) O v Herff Commenced in No 24
78 Comparison of Technics for Measurement of Blood Pressure (Die auskultatorische Blutdruckmessung im Vergleich mit der oscillatorischen von H v Recklinghausen und ihr durch die Phasenbestimmung bedingter klinischer Wert) J Fischer
79 Degrees of Ataxia in Right Hemiplegia (Relative Eupraxie bei Rechtsgelähmten) S Meyer.
80 Local Tetanus and its Origin (Der lokale Tetanus und seine Entstehung) L Zupnik
81 Speculum for Vagina with Intact Hymen M. Wassermann

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86. **Superheated Air in Treatment of Gonorrheal Joint Affections.**—Wagner tabulates the results of this treatment in 38 cases, stating that it is a decided advance over purely surgical measures. None of the 74 joints treated developed ankylosis, which can not be said, he declares, of any similar series under surgical measures.

89. **Clinical Notes on Cancer.**—Schnitzler would like to have cachexia stricken from the list of cardinal symptoms of carcinoma, as he knows of many instances in which physicians refused to diagnose cancer on account of the absence of cachexia. He gives examples to show the necessity of suspecting an epithelioma in the throat when indurated lymph glands are discovered in the side of the neck in an elderly person. A primary cancer in the stomach should also be suspected when the lymph glands in the axilla or the supraclavicular region become enlarged and hard but not tender. Still more suspicious of cancer in the stomach is an infiltration in the pouch of Douglas, such as he has observed in about a dozen cases. The infiltration in the anterior wall of the rectum sends out a process inward toward the lumen of the rectum and downward, shaped like the face of a seal ring. This infiltration may simulate a primary cancer in the rectum. In one such case of carcinoma at the pylorus with this metastasis in the pouch of Douglas, causing stenosis in the rectum, he performed gastroenterostomy and colostomy at one sitting, prolonging the patient's life for a year. He mentions parenthetically that he has observed this metastasis in the pouch of Douglas only with cancer of the stomach, with the exception of one case of cancer of the pancreas, and almost exclusively in men. Possibly this metastasis in men takes the place of the frequent metastasis in the ovaries in women. He also calls attention to the frequency of metastasis in hernias, especially when the omentum is involved. Cancerous glands may soften into actual cysts, and these cystic tumors may occur even in the liver. In one case he saw metastatic phlegmons develop on arm and leg as metastases of carcinoma in the esophagus. They were distinguished by the lack of severe inflammatory phenomena, and the pus was remarkably thin. He discusses the differentiation of genuine phlegmons from suppuration in and around a carcinoma, also the variations in the development of cancer, citing examples of unusually rapid and protracted growth. In one case the breast was hard and the lymph glands widely involved, the cancer being inoperable. It was found that the woman had been dismissed with this inoperable cancer five years before from another clinic. He thinks that carcinoma is of a relatively benign or malignant character from the first. His experience confirms the parallel relation between the duration of the symptoms before operation and the length of survival afterward. It seems evident that the improved technic of radical operations has merely improved conditions in regard to the prevention of local recurrence, the remote metastases are probably already existent at the time of operation, although they do not become evident until later. A significant fact is that a mouse cancer can be kept on ice for two years, and yet induce positive results when finally inoculated. He is convinced that emotional stress has a powerful influence on the development of cancer, and especially on the development of hitherto latent metastases. He relates several instructive instances—two in young men. Grief and worry may arouse a slumbering tendency to cancer, as they can turn the hair gray.

92. **Arteriosclerosis.**—Braun argues that the prevention of arteriosclerosis is included in the prophylaxis of the acute infectious diseases, for which he urges that greater attention should be paid to the care of the mouth. Calcification of the vessels is a secondary, not the primary, process in arteriosclerosis. The iodin preparations reduce the viscosity of the blood, and large doses should be given and kept up for months.

Mitteilungen aus den Grenzgebieten der Med. and Chir., Jena.

XIX, No. 1, pp. 1-186. Last indexed, June 6, p. 1950.

96 *Inflammation of Gall Bladder and Bile Channels without Gallstones. (Ueber Cholecystitis und Cholangitis sine concremento.) Riedel.
97 *Pathology of Fistula between Stomach and Colon. (Magen-Colonfistel.) O. Thorspecken.
98 *Alcaptonuria and Ochronosis. E. Allard and O. Gross.
99 *Physiologic Importance of Various Segments of Large Intestine. (Physiologische Bedeutung der einzelnen Dickdarmabschnitte.) O. Roith.
100 *Polyps in Stomach. (Polyposis ventriculi.) C. Wegele.
101 *Hyperalgetic Zones after Injuries of Skull. (Hyperalgetische Zone nach Schädelverletzungen.) P. Clairmont.
102 *Connection between Influenza and Appendicitis. E. Hönck.
103 *Transverse Severing of Spinal Cord at Third Dorsal Vertebra. (Transversaler Schni [illegible]
104 *Castor Oil in Acute [illegible] der akuten Appendicitis.
105 *Behavior of Roentgenized Animals to Bacterial Infection, especially in regard to Formation of Specific Antibodies. A. Läwen.

96. **Inflammation of the Gall Bladder and Bile Channels Without Concrements.**—Riedel says that among the 300 patients who applied to him for relief from supposed gallstones *during the last three years, four had no indications of concrements*. He had previously encountered two similar cases, and he relates the details of the total six cases. The pain in all commenced in the gall bladder, suggesting that the infection had arrived by way of the blood and not by extension from the intestine. Jaundice developed later. Removal of the gall bladder seems safest in severe acute cases, but in milder forms conservative measures are preferable if gallstones can be excluded. Prolonged drainage answers every purpose. Even if cholangitis has developed, it is comparatively useless to remove the gall bladder, and drainage offers the best prospects.

97. **Gastrocolic Fistula.**—Thorspecken's patient was a girl of 18 with tuberculosis of the skin and lungs. After a period of abdominal pains and feculent eructations, fecal vomiting was observed daily for three weeks, with regular stools, completely clay-colored. The principal symptoms of gastrocolic fistula are fecal vomiting, diarrheic stools and lientery, the stools containing an excess of mucus and partially digested food. In the present case only the first of these symptoms was present. Autopsy revealed tuberculous ulcerations throughout the splenic flexure, with a fistulous perforation into the stomach. A little dried bile was found in the gall bladder, but not a trace of bile in the entire system of bile ducts, and the contents of stomach and intestines were completely acholic.

98. **Alkaptonuria and Ochronosis.**—Allard and Gross report a case which confirms the connection between alkaptonuria and ochronosis. It also shows that severe joint changes are the direct result of the accumulation of the pigment in the cartilage tissue. Both the ochronosis and the alkaptonuria are evidently, they think, manifestations of one and the same anomaly in the metabolism.

99. **Physiologic Importance of Different Segments of the Large Intestine.**—The clinical and experimental researches related by Roith confirm the views in favor of an antiperistalsis. The latter occurs principally in the cecum, ascending colon and the first part of the transverse colon. The rest of the intestine seems to be free from antiperistaltic movements, except possibly the sigmoid colon. These facts should be borne in mind in making an artificial anus.

100. **Polyposis of the Stomach.**—Wegele reports the case of a woman of 59 who had suffered from supposed gallstone colics for many years; during the last few years diarrhea had alternated with constipation, and there was pain in the left hypochondrium with increasing weakness, emaciation and achylia. *The motor function of the stomach seemed unimpaired*, and there was no palpable tumor. The stomach tube always brought away a scrap of tissue covered with fresh blood. An exploratory incision in the stomach showed that the entire surface of the gastric mucosa was studded with soft polyps. Gastroenterostomy relieved the symptoms, but the patient continued to lose weight. Examination eighteen months later gave the same findings. The stomach was not removed, owing to the age and weakness of the patient, and

the fact that cancerous degeneration of gastric polyps has been observed only in very rare instances.

101. Zones of Hyperalgesia After Injuries of the Skull.—Clairmont reports a case of bullet wound of the right temple, the bullet passing outside the skull into the rear of the right orbit. Besides the transient visual disturbances and paralysis of the oculomotor, trochlear and abducent nerves, a symmetrical zone of hyperalgesia was observed on the neck and breast, such as Wilms has described. It is probably due to injury of the sympathetic root of the ciliary ganglion. In another case after slight concussion of the brain a zone of paresthesia and hyperesthesia was observed on one side of the vertex. He tabulates the details, with illustrations, of these zones in 11 cases of bullet wounds of the head, in 6 cases of fracture of the base of the skull and concussion of the brain, and in 7 with concussion of the brain alone.

102. Relations Between Influenza and Appendicitis.—Hönck asserts that the infection which we call influenza is not always located primarily in the throat, but the intestines, and especially the cecum and appendix may be the nidus of infection. Cases of appendicitis developing after an epidemic of influenza should be regarded as a relapse of an appendicitis which was either falsely diagnosed as influenza, or in which an influenzal sore throat coincided with an infectious process in the appendix. He has often observed an angioneurotic edema in the throat following immediately after the decline of the fever in appendicitis. He has also observed that inflammation in the throat and in the appendix may occur without symptoms. Another fact to which he calls attention is the occurence of pains in the rear of the abdominal cavity, during appendicitis. These pains are in the root of the mesentery, so that the pain in appendicitis may be felt in the back rather than in the abdomen. He believes that appendicitis occurs as frequently as tonsillitis, only that we are unable to recognize its milder forms. Many cases classed as influenza are in reality appendicitis, and he is confident that appendicitis may be contagious in some cases.

103. Transverse Section of Spinal Cord.—Solieri reports a case in which a man of 36 had the spinal cord completely severed with a long knife at the level of the third dorsal vertebra. There was at once lax motor and sensory paralysis of all kinds, and two hours later the tendon reflexes were found permanently abolished. By the sixteenth hour decubitus began to develop, which continued a constantly progressive course, on the sacrum, heels and base of the thorax. During the three months before death the symptoms changed during the various phases. At first the general condition was good and the superficial reflexes could be elicited. But gradually they waned. There were also observed clonic, spontaneous or reflex contractions of the legs; and clonic and tonic contractions of the arms (period of ascending and descending processes of degeneration in the spinal cord). At first there were priapism and increased dermography, followed later by normal conditions in this respect, evidently from vicarious functioning of the sympathetic. The paralysis of the rectum and bladder noted at first gradually subsided to normal or intermittent functioning; and this stage was succeeded by incontinence as the distal segment of the spinal cord became degenerated. The muscles gave a positive or negative reaction according to the period of observation. He also discusses the sensory disturbances and describes his suture of the spinal cord 16 hours after the trauma. The condition seemed to be unusually favorable for suture of the cleanly severed cord. The stumps were an inch apart, but were regularly coaptated by two stitches through dura and cord, with four stitches in the dura alone. The results of the operation were negative

104. Castor Oil Treatment of Appendicitis.—Sonnenburg has for some time been proclaiming the superior advantages of systematic administration of castor oil in the milder cases of appendicitis. If the condition begins immediately to improve there is then no need for an operation, but if no improvement is apparent he operates at once. He emphasizes that this castor oil test is not adapted for private practice, but is only for the surgeon. The most solicitous supervision is necessary, with everything prepared for an operation at any moment. Unless temperature, pulse and leucocytosis are approximately 37.5, 92, 15,000, he does not attempt the castor oil treatment. Even when destructive appendicitis is diagnosed, if the general condition is good and the disease process strictly localized, he gives the castor oil to improve conditions for the further course of the affection. In 150 cases last year rapid improvement followed in 144 cases; six patients required operation, as no improvement was observed; all recovered. He reiterates in conclusion that this castor oil treatment without supervision of the leucocytosis is entirely worthless.

105. Behavior of Animals in Response to Bacterial Infection After Exposure to the Roentgen Rays.—The extensive experiments related by Läwen confirm the assumption that the blood-producing organs, and especially the groups of cells connected with the production of leucocytes, are the sites of production of the specific antibodies.

Münchener medizinische Wochenschrift.

June 23, LV, No. 25, pp. 1321-1368.

106 *Freund's Operation—Chondrotomy of First Rib in Incipient Apical Tuberculosis. (Chondrotomie der 1. Rippe bei be- [illegible].) H. Seidel.
107 [illegible] Fat-Free Tuberculin. (Diagnos- [illegible] einem fettfreien Tuberkulin.)
108 *Ovarian Antibodies and Osteomalacia. (Ovarialantikörper und Osteomalacie.) L. Fraenkel.
109 Acute Dilatation of Heart from Overexertion. F. Moritz.
110 Affections of Lachrymal Glands and their Treatment. (Tränenkanalleiden.) E Enslin.
111 Feeding Infants with Artificially Drawn Breast Milk. (Ernährung mit abgesogener Muttermilch.) W. v Starck.
112 *Improved Technic for Examination of Urine. (Erleichterung bei d [illegible] A. Hoffmann.
113 Operati[illegible] Lung. E Hoke.
114 Static [illegible] (Dermatotherapeutische Verwertung der statischen Elektrizität nach Suchier.) Jesionek. Commenced in No. 24.

106. Chondrotomy for Incipient Apical Tuberculosis.—Seidel corroborates the assertions of Freund in regard to the advantages of restoring flexibility to the upper part of the chest when it has become rigid, thus inducing a predisposition to apical lesions. He has operated thus in two cases with fine results, mobilizing the rigid first rib. He illustrates his technic, cutting the cartilage of the first rib slanting from the axilla toward the throat. If the lesion has spread beyond the apex this chondrotomy is useless, as it modifies merely the conditions in the apex.

108. Ovarian Antibodies and Osteomalacia.—Fraenkel discusses the questions whether antibodies for the ovarian substance or secretion are found in the blood; whether such antibodies occur in increased amounts after loss of ovarian functioning; whether they are the cause of the symptoms of the premature menopause, and whether the antibodies pass into the milk and the other secretions and excretions. He is inclined to think that osteomalacia and the symptoms of the premature menopause are opposite extremes, like myxedema and exophthalmic goiter from insufficient or excessive thyroid functioning. The good results obtained in the former with serum of thyroidectomized goats encouraged him to treat osteomalacia with the milk from a goat whose ovaries had been removed. An xi-para with osteomalacia, recurring more and more severe at each pregnancy during the last seven years, was fed on the milk of the castrated goat. The case was one of typical, far-advanced osteomalacia: the pulse rate ranged from 120 to 140: the heart was bad; the weight had dropped to 61 pounds, and the patient was bedridden. Within a month after commencing to take the milk of the castrated goat the patient was able to walk, the pulse rate was 96, and she had increased ten pounds in weight. For various reasons Fraenkel thinks that intravenous injection of blood serum from women presenting the symptoms of premature menopause would be more effectual than the milk of castrated goats, as more concentrated. There is still another way for this antibody treatment of osteomalacia, by immunization with ovarian substance to obtain an immune serum for the purpose. If it is found that ovarian antibodies do actually paralyze the functioning of the ovaries, they may be found effectual not only in osteomalacia, but whenever it is desired to restrict the action of the ovaries, as for instance, in menstrual disturbances and in case of myoma, etc.

112. Examination of Urine.—Hoffmann illustrates a little contrivance with which it is possible to collect on a flat plate the sediment of centrifugalized urine. The plate is then transferred to the microscope as the object glass. Another arrangement is a spherical prolongation of the sedimentation tube, with a stopcock below. With these it is possible to reveal the presence of formed elements in urine which would otherwise escape detection.

Wiener klinische Wochenschrift.

June 25, XXI, No. 26, pp. 931-968.

115 Relations between Endotoxins and Toxins. R. Kraus.
116 Positive Response to "Specific" Test for Syphilis in Nonsyphilitic Affections. (Positive Wassermann-Neisser A.-Brucksche Reaktion bei nichtluetischen Erkrankung.) E. Weil and H. Braun.
117 Clinical Experiences with Precipitation with Distilled Water in Serum of Syphilitics. E. Klausner.
118. Anastomosis between Portal Vein and Inferior Vena Cava in Collateral Circulation in Cirrhosis of Liver. (Das Retziussche System als Kollateralkreislauf bei Leberzirrhose.) R. Franz.
119 *Etiology of Portal Thrombosis. (Pfortaderthrombose.) V. Hecht.
120 Operation for Phimosis. O. Föderl.
121 Backward Dislocation of Foot and Extension Dressing with Flexed Knee. (Verrenkung des Fusses nach hinten und den Extensionsverband bei gebeugtem Knie.) K. Ewald.
122 *Conservative Treatment in Gynecologic Affections. P. Profanter.

119. **Etiology of Portal Thrombosis.**—Hecht reports a case distinguished by displacement of the trunk of the portal vein. The patient was a girl of 15 who had been subject for years to recurring vomiting of blood. The malformation was evidently responsible for the portal thrombosis and the varicose veins in the esophagus and stomach.

122. **Conservative Treatment of Gynecologic Affections.**—Profanter practices at Franzensbad, and for more than twenty years he has been much impressed with the therapeutic efficacy of prolonged irrigation of the vagina with hot mineral water, especially when combined with mud baths and gynecologic massage. Scar tissue softens, its absorption is promoted and various gynecologic affections are promptly cured. He heats the water with a jet of steam so as not to modify its chemical or radioactive properties. The fresh mineral water has a specific healing influence, he asserts, on catarrhal affections of the mucosæ. He uses a pear-shaped, two-way glass cannula, the outflow smaller than the inflow, to allow distention of the vagina. He does not recommend a course longer than six or eight weeks of daily irrigations, commencing with a three to ten minutes' flushing, the water at a temperature of 37 C. and never higher than 50 C. (123 F.). He has never had any mishaps from gynecologic massage, although he has applied it 30,000 times.

Gazzetta degli Ospedali e delle Cliniche, Milan.

June 21, XXIX, No. 74, pp. 777-792.

123 *Prognosis of Injury of the Cornea. (Prognosi delle bruciature della cornea.) [illegible]
124 *Albuminuria in [illegible] A. Massaglia.
125 *Slow Pulse Rate [illegible] Ghedini.
126 Four Cases of Chronic Laryngotracheal Stenosis cured by Laryngotracheostomy. U. Melzi and A. Cagnola.

June 28, No. 77, pp. 809-822.

127 *Suprarenal Extract [illegible] (Opoterapia surrenale sulla insuffi[illegible] [illegible]elchiorri.
128 *Spinal Anesthesia. D. Maragliano.
129 *Thymus Treatment of Disturbances in Growth of Children. (Syndrome da accrescimento e distiroidismo—Saggio d' interpretazione patogenetica e tentativo opoterapico.) P. Galli.

123. **Prognosis of Injury of the Cornea.**—Di Giuseppe describes a little instrument for testing the sensibility of the cornea after injury from a caustic. So long as sensibility is retained the prognosis is not absolutely bad.

124. **Albuminuria in Parathyroid Insufficiency.**—Massaglia noted albuminuria in nearly all the animals whose parathyroids he removed. The albuminuria was intermittent, but it showed that the parathyroid insufficiency had evidently affected the kidneys injuriously so that any slight increase in the autogenerated toxins was sufficient to induce albuminuria under these conditions. On the other hand, partial thyroidectomy, leaving one-fifth of the thyroid gland with all the parathyroids intact, was not followed by albuminuria. These experimental findings confirm what is observed in the clinic.

125. **Slow Pulse in Mumps.**—Ghedini noticed bradycardia in 17 cases of epidemic parotitis, and here describes 10 of the most typical examples. The pulse ranged from 40 to 56 beats a minute with normal temperature, increasing to 70 and 90 with fever. The patients were all men between 18 and 36, and orchitis was a frequent complication.

127. **Suprarenal Extract in Aortic Insufficiency.**—A number of pulse tracings are given to show the benefit that followed suprarenal treatment in a woman of 50 with aortic insufficiency and tachycardia. Small doses were given daily for three months, and they seemed to strengthen the tone of the walls of the blood vessels, thus regulating the blood wave and improving conditions in the left ventricle by reducing the work of the heart and the sudden distention of the arteries. Melchiorri thinks that suprarenal treatment has a promising future in these "hydraulic disturbances" from aortic insufficiency.

128. **Spinal Anesthesia.**—Maragliano calls attention to the fact that the alkaline reaction of the cerebrospinal fluid is liable to cause precipitation in the anesthetic solution, which thus loses its analgesic properties in large measure. He has found that 0.5 per cent. of glucose added to the anesthetic solution seems to prevent this precipitation. It is thus possible to induce the anesthesia with a smaller amount of the anesthetic. Cocain has the property of preventing the precipitation of the anesthetic, as also certain other anesthetic drugs tested.

129. **Thymus Treatment of Disturbances in Growth.**—Galli theorizes to explain the disturbances in growth of children and youths as an expression of perverted thyroid functioning, pointing out the analogy between certain symptoms observed in rapidly growing children and those of exophthalmic goiter. For these reasons he has given thymus opotherapy *a thorough* trial in three typical cases in children between 11 and 14. Heart disturbances predominated. *The fresh thymus gland* was given for five or six weeks and improvement was marked.

Policlinico, Rome.

June 21, XV, Practical Section, No. 25, pp. 773-804.

130 *Adenoid Vegetations and Inability to Concentrate the Attention. (Vegetazioni adenoidi ed aprosexia nei bambini.) A. F. Bonazzola.

130. **Adenoid Vegetations and Inability to Concentrate the Attention.**—Bonazzola found among 400 school children at Bologna that 141 displayed a want of power to concentrate the attention. Examination of this group revealed adenoid growths in all but 24. In the 24 with aprosexia without adenoid vegetations there invariably was nasal obstruction from some other cause, and the children were neurasthenic and presented signs of inherited physical degeneracy. He suggests the term "primary aprosexia" for these cases of pseudoadenoid syndrome. Adenoid vegetations were discovered also in 59 children free from the "nasal aprosexia." In the total 176 with these growths 66 per cent. were pointed out by the teachers as lacking power to concentrate their attention.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Friedberger and Fröhn[illegible] [illegible]hology. Vols. I and II. Translated by M. I[illegible] [illegible]Author of "Points of the Horse," etc. With [illegible] by Professor R. Tanner Hewlett, M.D., F.R[illegible] Sixth Edition. Cloth. Price, $8.00 per set. [illegible] Keener & Co., 1908.

A Short Practice of Aural Surgery. By J. Arnold Jones, M.B., Ch.B. (Vict.), F.R.C.S. (Ed.), Hon. Assistant Aural Surgeon to the Manchester Eye and Ear Hospital. Cloth. Pp. 260, with illustrations. Price, $1.75. New York. John Lane, 1908.

Handbuch der Biochemie des Menschen und der Tiere. Herausgegeben von Dr. Phil. et Med. Carl Oppenheimer, Berlin. Vol. II. Paper. Pp. 320, with illustrations. Price, $1.25. Jena: Gustav Fischer, 1908.

Medical Gynecology. By Samuel Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Cloth. Pp. 676, with illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

Consumption. By C. H. Stanley Davis, M.D., Ph.D., Member of the New Haven County Medical Society. Cloth. Second Edition. Pp. 218. Price, $1.00. New York: E. B. Treat & Co., 1908.

Florence Nightingale's Influence on Modern Nursing. By Dr. M. H. Boehroch, Philadelphia. Paper.

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Original Articles

A NEW METHOD OF EXTERNAL FRONTAL SINUS OPERATION WITHOUT DEFORMITY.*

JOSEPH C. BECK, M.D.

CHICAGO.

The tendency of the present day is to operate on the accessory sinuses of the nose by the intranasal method because of the avoidance of a deformity and scars. It is possible to do this in all the sinuses except the frontals and some of the most anterior group of ethmoidal cells. Successful operations have been made by the intranasal method on these latter cavities by the methods advocated by E. Fletcher Ingals, Halle, and Good, and were it not for exceptions in the anatomy and pathology of some cases, there would be no need of external operations. Besides, there is considerable danger to the brain in this blind way of operating. The success of the radical procedure of Killian on the frontal sinus, etc., is due to the fact that one can see clearly the anatomico-pathologic conditions, and were it not for the marked deformity that results at times one could not wish for a better method of procedure. To overcome this difficulty several methods have been devised. Küster advises making the osteoplastic flap by raising the skin, subcutaneous tissue, periosteum and external table of the frontal sinus in one piece. After thoroughly eradicating the diseased mucous membrane, etc., and establishing good drainage into the nose, he replaces the aforesaid skin-bone flap and closes for primary intention. Results from this procedure were not absolutely satisfactory owing to the fact that the free border of the flap would fall into the cavity and cause a deformity. Again, he had no knowledge of the size of the frontal sinus in order to make the proper size flap. Winkler, Jansen, Gussenbauer, Brieger, Czerny, Schoenborn and Hoffmann have all described osteoplastic methods and modifications, and with the exception of Winkler, who refers to the value of x-ray plates in facilitating the technic of his operation, these authors have the principle of retaining the bone as their feature.

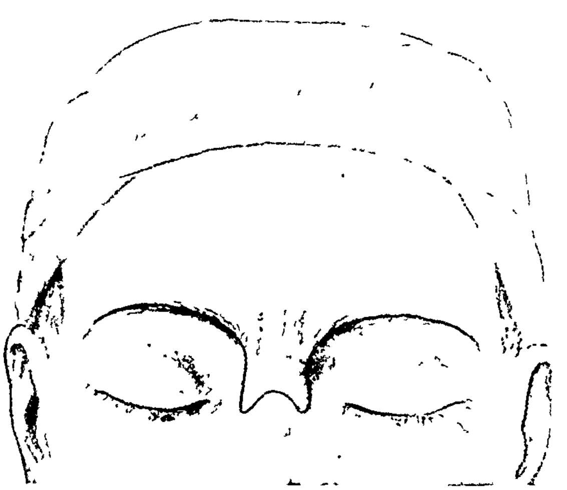

Fig. 1—Showing incision through skin and subcutaneous tissue through the upper margins of the eyebrows.

In the past two years I have been much interested in the skiagraphs of frontal sinuses, and while working along this line the idea suggested itself to me that if one could determine before operation the size of the frontal sinus, that is, its marginal limits, one could make just the right size osteoplastic flap. It then became necessary to develop a method to overcome the falling in of the flap.

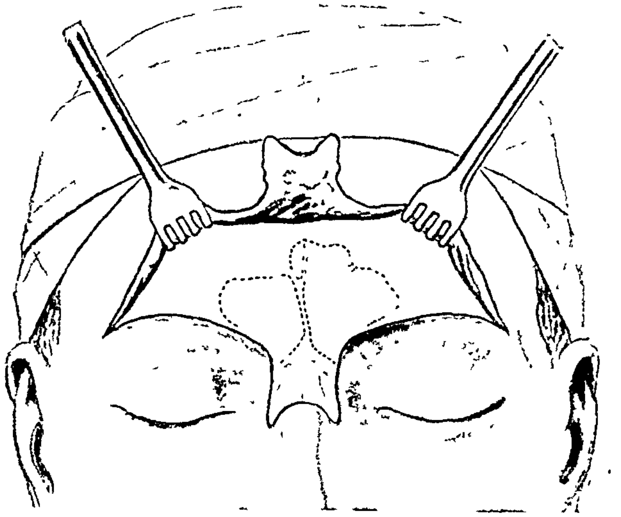

Fig. 2—Dissection of the flap, skin and subcutaneous.

DESCRIPTION OF TECHNIC.

The method of procedure is as follows:

1. An incision is made through the skin and subcutaneous connective tissue through the upper margins of the eyebrows, then downward and inward as far as is usually done in the Killian operation. These two incisions are then joined by means of a transverse incision across the bridge of the nose (Fig. 1).

2. This skin and subcutaneous flap is then dissected upward until the upper limits of the frontal sinuses are exposed (Fig. 2). This is determined by having a

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

celluloid tracing of the radiogram (Figs. 3 and 4; natural and retouched. Fig. 5)

PREPARATION OF THE CELLULOID TRACING

The tracing is made as follows

Take a piece of ground celluloid film about three inches square place over the radiogram (glass plate) negative which is either in the transilluminating box or against the daylight. Trace the outlines with ink of the supraorbital margins from without inward until the margin of the frontal sinus is reached this latter is now followed about its two lateral and upper margins so obtaining upper and lateral limits and outline of the frontal sinuses The outline of the supraorbital margins is for the purpose of getting a fixed point This celluloid model can be sterilized in bichlorid of mercury and alcohol in order to be used during operation

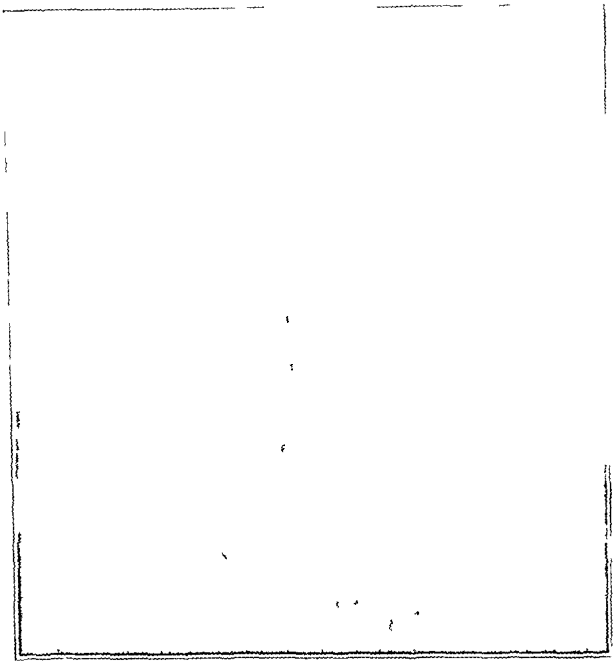

Fig 3 —Radiograph of the sinuses

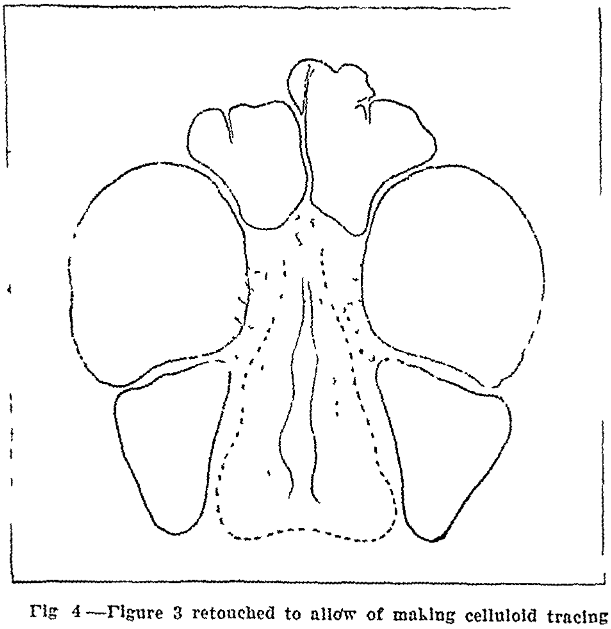

Fig 4 —Figure 3 retouched to allow of making celluloid tracing

If the sinuses extend very high up on the forehead, then it may become necessary to make two small perpendicular incisions at the extreme limits of the flap (external canti).

3. Place the celluloid tracing of the radiogram over the frontal sinus regions and incise the periosteum all around the upper and lateral margins of the same, but not over the supraorbital borders or at the root of the nose (Fig. 5).

4. With a flat chisel the external table of the frontal sinus is then penetrated along the whole course of the above described incision through the periosteum, also severing the attachment of the septum of the frontal sinus from the posterior surface of the external table.

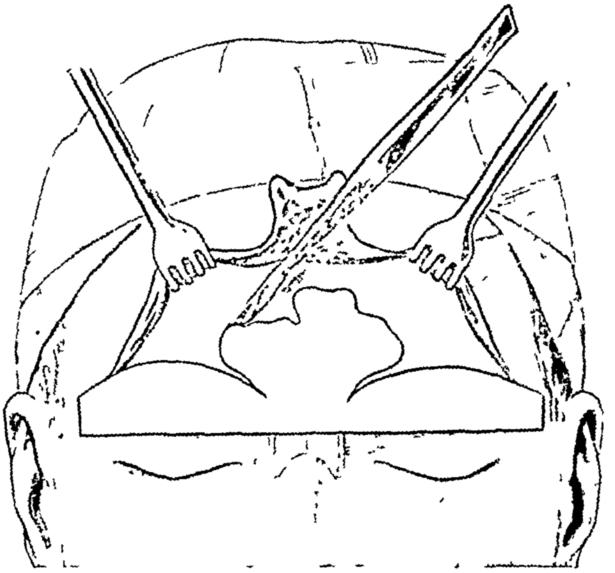

Fig 5 —Method of placing the celluloid tracing over the frontal sinus region before making the bone flap

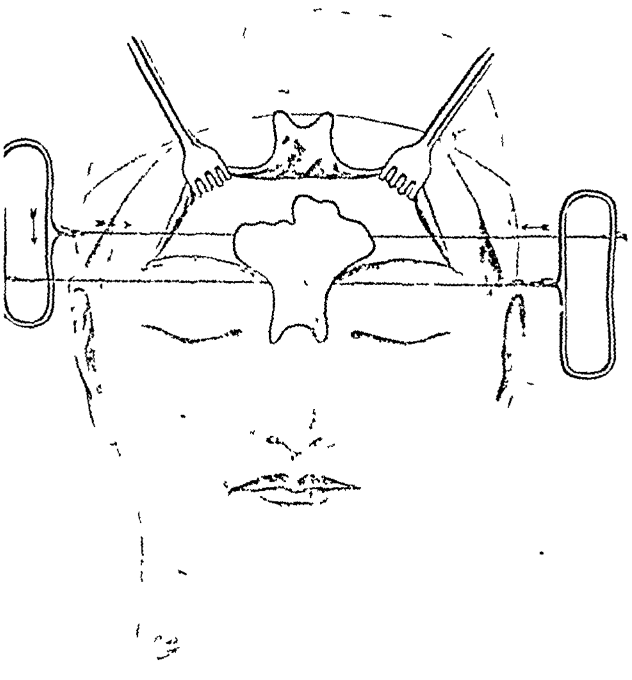

Fig 6 —Method of using the Gigli saw to cut the bone flap

5. This osteoperiosteal flap is then slightly pried open by means of a chisel, and a Gigli saw is brought down to the base of the frontal sinus, in other words, across the supraorbital margins.

6. Carefully drawing the saw from within outward a few strokes will sever the bone but not the periosteum. Great care must be taken not to cut through this structure—rather not saw through the entire thickness of bone, as it will readily break when it is everted downward over the nose (Fig. 6). The skin flap is now reflected upward and the periosteal bone flap downward, thus exposing both frontal sinuses (Fig. 7). Right side shows the granulations removed and drill in operation enlarging the natural nasofrontal opening. Left side demonstrates the cavity filled with granulations and pus.

7. If only one sinus is to be exposed, then the technic varies only in the osteoperiosteal flap, making the incision within the limits of the frontal sinus septum. The skin flap may be made by making a perpendicular incision from the internal angle of the orbit as high as the radiogram indicates the height of the frontal sinus, within the natural intersuperciliary furrow (wrinkle) (Fig. 8).

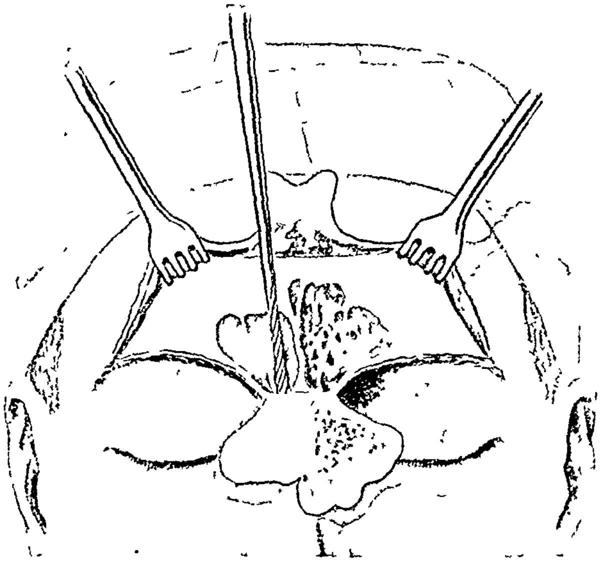

Fig. 7.—The right side shows the granulations removed and drill in operation enlarging the natural nasofrontal opening. The left side shows the cavity filled with granulations and pus.

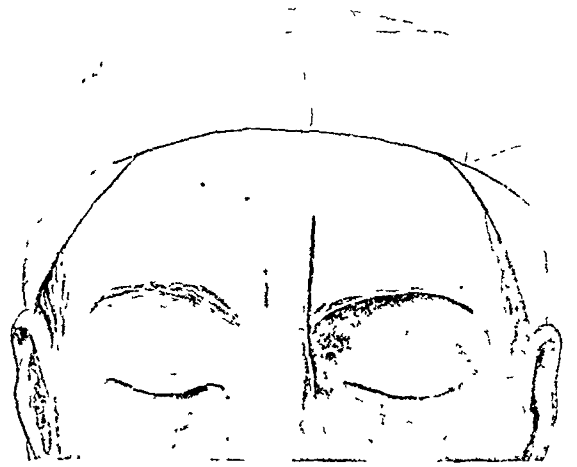

Fig. 8.—Another method of making the skin flap.

8. Thoroughly eradicate the diseased mucous membrane, but do not curette, and enlarge the natural opening into the nose, using the Halle trephine or Good rasp. Also thoroughly remove the most anterior ethmoidal cells.

9. Introduce a large rubber tube through which is passed a wick. This wicking is loosely folded within the cavity of the frontal sinus. The other end of the tube is passed down into the nose close to the floor, with a small portion of the wicking protruding (Fig. 9).

10. Replace the osteoplastic flap with its firm hinge to prevent falling in, and its natural upper marginal bevel where the anterior and posterior tables join (Fig. 10). Bring down the skin flap and suture with silkworm gut, using the Halstead subdermal suture and a few horsehairs right over the bridge of the nose.

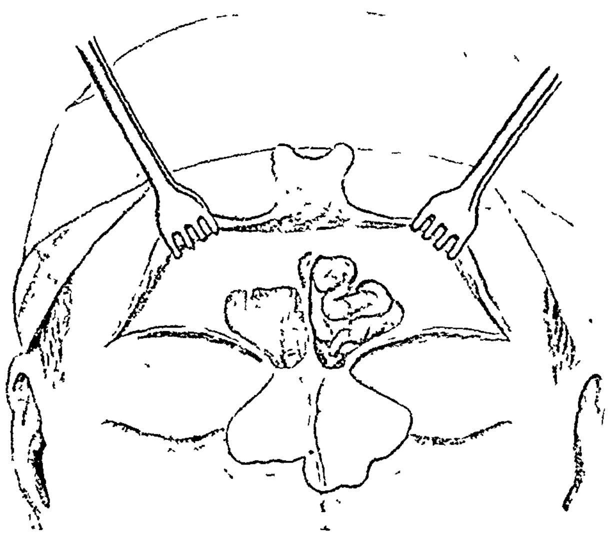

Fig. 9.—The most anterior ethmoidal cells.

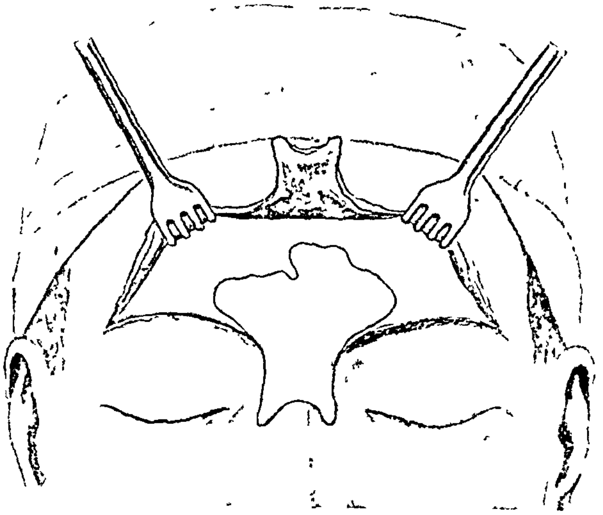

Fig. 10.—The osteoplastic flaps replaced.

THE AFTER-TREATMENT.

The after-treatment is to remove the gauze the next day, and on the third to the fifth day the rubber tube is replaced by a silver filigree or gold tube. In one case I used no tube, and now, four months since operation, the opening is sufficiently large to permit ventilation and drainage and the patient is well. One should avoid the use of douches or the strong blowing of the nose immediately after operation.

In conclusion I wish to say that this is not a radical, but a conservative, method, and if it fails the radical operation of taking away the bony flap can be done with local anesthesia.

I desire to report the case of one of the five patients operated on, since he is the longest under observation and has been well long enough to at least warrant me in venturing to present this operative procedure.

Patient.—John B., aged 21, was referred to me by Dr. John J. Kyle, Indianapolis, with a history of chronic suppuration from the accessory sinuses on both sides and a double chronic purulent otitis media. There were general symptoms of anemia and malnutrition.

Examination.—Both sides of the nose were discharging pus anteriorly as well as posteriorly, above as well as below the middle turbinated bodies. The mucous membrane was chronically inflamed and degenerated. Puncture and washing of antra revealed no pus. Both ears were discharging a foul-smelling pus, and there was granulation tissue at the inner wall of the middle ear. Practically all the tympanic membrane was destroyed.

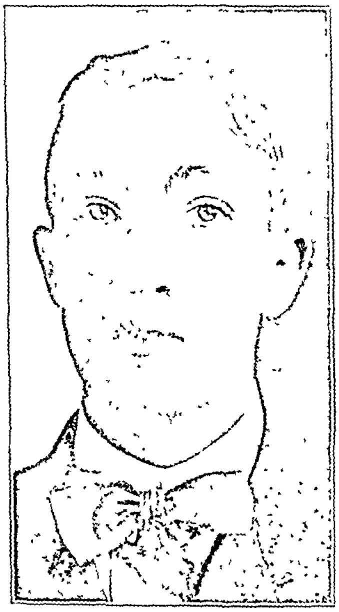

Fig. 11.—Cosmetic result. The scar across the nose is concealed by the bow of the patient's spectacles.

Treatment.—The treatment began April, 1905, with removal of middle turbinates and ethmoidal curettement, also enlargement of the sphenoidal openings. A partial operation had been done before on both middle turbinates and one sphenoidal sinus was entered by Dr. Kyle. Several small after operations were necessary to keep the upper regions clear. He then had a double radical mastoid operation for the cure of the chronic suppuration. His ears were cured, but the nasal trouble continued in a measure. There was always a discharge of pus, especially in front, and frequently a complaint of frontal headaches. These aches increased in frequency and severity so that about every two weeks he would have a bad attack. Attempts to pass a canula for irrigation of the frontal sinus were not successful.

Vaccine Therapy: On Sept. 10, 1907, I began opsonic work on him and found that his nasal secretions contained three different micro-organisms, for two a different opsonic index, namely:

Bacillus pseudodiphtheriæ: Opsonic index, 0.54.

Staphylococcus: Opsonic index, 0.63.

Bacillus X (believed to be the *Bacillus fœtidus ozenæ*): No opsonic index was made.

Autogenous vaccines were made from the above cultures, and the patient was systematically treated and observed according to the methods laid down by Wright and others, with the result that he improved very much locally and generally.

I was now, after about four months of the above-named treatment, beginning to hope for a cure. However, he complained of his frontal pains more and more until I finally decided to operate by the external method as described. He has made a perfect recovery. He is free from pain, and there is no deformity so far as the bony structures are concerned, and the scars are practically invisible. The scar across the nose is so placed as to be hidden by the bow of the spectacles (Fig. 11).

Of the other cases two were unilateral and two bilateral. In one of the unilateral cases the incision is like that shown in Figure 8, and there is a good cosmetic as well as clinical result. After this, however, I should always use the incision outlined in Figure 1, because it is easier, and after opening up one may find reason for going into the second sinus. The remaining three cases are all satisfactory.

DISCUSSION.

Dr. A. Jansen, Berlin: Is the suppuration cured?

Dr. Joseph C. Beck, Chicago: Not entirely. There is no suppuration, but a mild discharge of seromucus.

Dr. A. Jansen: This is a very ingenious method of procedure; the improvement resulted quickly, and there is complete restoration without any deformity. When there is any disease of the ethmoid bone, as is generally the case in chronic suppuration of the frontal sinus, the frontal sinus will probably be reinfected from the ethmoid cells with a return of the pains, and perhaps with this makeup of the sinus may be combined a more radical operation on the ethmoid sinus, and then it is to be hoped that the results may be better. It seems to me not to be very difficult to combine with this method a larger opening and to remove all the ethmoid cells, if the condition in the ethmoid is not too marked. In this the frontal opening is small. In many cases the frontal sinuses are larger, and, therefore, it is to be feared that there is not enough drainage from the frontal cavity, and in some months, or some time later, there may be an increase of the trouble. I suppose that the method is good for some cases, but I believe that it is not adapted or acceptable as a general method for a large number of cases.

Dr. J. Holinger, Chicago: In which pathologic condition does Dr. Beck employ this operation? Is it for the acute cases? The great number of these will get well under simple local treatment, especially syringing out the cavity itself. If it is for the chronic suppurations, which forms? Does he expect any lasting results when there are distinct pathologic changes of the mucous membrane—chronic thickening—often found, amounting to ten times its normal condition? Does he expect any distinct results in cases where there are polypoid degenerations of the membrane? There is a condition that I met in one case which would respond very promptly to this operation. It was a case of so-called caseous rhinitis; in both frontal sinuses were large masses of dried pus and epithelium, which could not be removed through the nasal route. At the same time the mucous membrane was not sufficiently changed to justify the radical Killian operation. The patient I speak of was operated on six years ago and had very little resulting deformity. The sinus was simply opened from the outside, and several years later closed by a plastic operation. That would be a distinct indication for this operation.

Dr. W. W. Carter, New York: It seems to me that this ingenious operation would be found to have a very limited field of usefulness, because, as Dr. Beck states, he only removes the inflammatory products. The membrane is not removed, and it seems difficult to know how a case could be sufficiently serious to require operation and yet be cured by the simple removal of the inflammatory products, leaving a diseased membrane *in situ*. It will find its field of usefulness in a certain number of cases: not very severe ones, however, and I think that intranasal irrigation and probably the removal of a small portion of the anterior tip of the middle turbinate would probably do about as well.

Dr. B. R. Shurly, Detroit: I call attention to the great value of x-ray examination in cases of frontal sinus infection. For some years past it has been a routine procedure with me to examine every case of suspected sinus trouble by means of the x-ray. It is particularly valuable in the diagnosis and outlining of the frontal sinus. Dr. Beck's method of making a diagram of this x-ray picture is a contribution to this subject and should certainly be a part of our definite routine procedure. The question of the relief of frontal sinus trouble seems to me to be thoroughly and definitely outlined under our modern surgery. A number of these cases which apparently would require operation are readily relieved with irrigation. If that procedure does not readily afford relief, it seems to me we should follow next the intranasal route. When that is not successful we can then resort to our more simple or more radical surgical methods.

Dr. J. A. Stucky, Lexington, Ky.: It seems to me that the very unique operation described by Dr. Beck increases the danger of marked deformity. If we do get a secondary infection and an involvement of that osteoplastic flap and have to do a second operation, the deformity will be greater than if we had done the radical Killian operation. It seems to me in the class of cases referred to by Dr. Beck the intranasal operation relieving the blocked infundibulum might have given relief. We must not forget the fact that in the average case, frontal sinus infection does not begin in the sinus at first, but probably in the ethmoid cells and the middle meatus, and in many of these cases the removal of the anterior half or anterior one-third of the middle turbinate and curetting of the anterior ethmoidal cells will give the frontal sinus the drainage that is needed. In nineteen cases I have done the modified Killian operation in which I opened the sinuses, preserving the periosteum, enlarged the frontal duct, removed part of the turbinate and curetted the anterior ethmoid cells, placed a drainage tube in, and then closed the wound up externally, and after four or five years there is almost no deformity—a little dimple in some instances—and the relief has been marked.

Dr. Otto T. Freer, Chicago: I think that it would be difficult to cut out Dr. Beck's bone flap as accurately in the bone of the skull as it appears in his diagram. Dr. Beck would have been more convincing as to the feasibility of its creation if he had brought wet specimens showing the making of his flaps on the skull instead of on paper merely. My experience in making osteoplastic flaps of the anterior wall of the frontal sinus has been limited to cadaver operations only, but I have not found the neat excision of the bone covering the front wall of the sinus, so that it may be replaced as a cover, an easy matter. In smaller sinuses with thick frontal walls I could not make a flap at all and found that unequal thickness of the bone and the difficulty in making it break where I wanted it to in order to form the hinged attachment for the flap, were the chief hindrances to accurate surgical work in the procedure. For circumcising the bone flap I used the chisel and small dental circular saw driven by a dental engine, but there was much difficulty in telling when the bone was completely severed and the outlining was not accurate.

Dr. Beck's drawing shows that he used a chain-saw for making his bone flap. It is not clear to me how Dr. Beck introduces this implement underneath the bone, or how a chain saw could be made to follow exactly the celluloid outline of the sinus. While it might do this if the frontal sinus bulged like a hemisphere, considering that it commonly lay in the level of the frontal bone or bulged but a little, it is not clear how a chain-saw could be made to cut out an irregular plate of bone of the form desired from such a flat surface. While it might be made to do so after a fashion if the intention is to cut away the front wall of both frontal sinuses, it seems incomprehensible how it could accurately follow the septum of the sinuses if only one is to be opened. The chain-saw is a jerky instrument which sticks at nearly every pull, is anything but an implement of precision, and would have a tendency to cut its way out of the sinus by bisecting the flap from underneath.

Dr. A. Jansen, Berlin: The best method for the radical cure is the Killian method, but I have performed in later years a modified operation. I conserve the anterior wall and make the reposition and in the natural situation, but on the other side of the frontal sinus. In the majority of cases after healing there is very little deformity. In many cases there is nothing to be seen, and I can advise this operation especially because with the x-ray examination for each operation the depth of the frontal sinus and the thickness of the anterior wall are known. When the anterior wall is thick one can always be sure after the radical operation in forming this flap that the deformity is nearly or quite *nil*.

Dr. E. Fletcher Ingals, Chicago: I commend Dr. Beck for placing emphasis on the fact that he did not scrape out the mucous membrane from the frontal sinus and thus leave a cavity that must be filled with scar tissue. Why should we want to scrape it out? Why should it be necessary to destroy a great deal of tissue when we know that at least 90 per cent. of the cases will get well if simply given free drainage? General surgeons have been doing some very radical work for many years, but the pendulum is swinging back to a better conservatism. We must speedily learn what general surgeons are beginning to understand, that conservative surgery is better than extremely radical surgery. Do not misunderstand me. Radical surgery is necessary sometimes, but in the accessory sinuses it is not necessary in more than 10 per cent. of the cases where it is commonly practiced.

Dr. Joseph C. Beck, Chicago: In answer to Dr. Freer, the saw will not slip if made short enough. When it reaches the base it should be drawn upward. In the unilateral affection it is useless. A chisel must be used or a circular saw. I do not advise this as a radical operation, and it is indicated after all the intranasal methods have been used. This patient has had a double mastoid operation; he has had every sinus in his head except the frontal opened because of the condition. I was forced to do something to relieve the symptoms, and that is the reason I did this more conservative operation. In making the x-ray photographs I follow the method of Caldwell of New York and Hickey of Detroit.

FACIO-HYPOGLOSSAL ANASTOMOSIS.*

GEORGE F. COTT, M.D.
BUFFALO, N. Y.

Deformity caused by injury to the facial nerve is extremely unpleasant, not only to the patient, but also an ugly advertisement for the physician. How many cases of this accident have occurred will probably never be told.

Every operator has had one or more patients with facial paralysis, but how many such patients recover is a difficult question to solve. Ordinarily the injured nerve recovers within a year, but shows signs of beginning functioning much earlier. Of the nine or ten cases which occurred in my own practice the longest time without sign of function was four months. The length of time of cessation of function depends, I believe, on the extent of the injury or shock produced by trauma. If through infection, neuritis occurs, there may be partial permanent paralysis even though the nerve recovers from the injury.

The facial nerve in its canal courses in a practically never-varying channel (Figs. 1 and 2); the point at which it is usually injured is at its second bend toward the vertical direction. All about its canal we may find necrotic bone which needs attention. If not injured here the nerve may be exposed by necrosis of its canal and have become affected by disease from the bone or by instruments. Nevertheless one can never tell whether paralysis will follow an operation or not: therefore, great caution is necessary while doing a radical, or even the

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Schwartze operation. In operating on the mastoid cells one can safely work downward toward the tip of the mastoid and clean out all the cells without fear of injuring the facial nerve, for it seldom varies from its vertical course more than a few degrees forward; I have, however, found it deviate backward rather than forward.

It is an important question when to decide that the nerve is beyond spontaneous recovery. The deciding period is when atrophy of the facial muscles begins, which may be within a few months of the time of injury or even within a year. Atrophy may be warded off, however, for an indefinite period by faradization or massage and spontaneous recovery has taken place, it is said, a whole year after injury. I have observed total paralysis for four months at which time the masseter showed signs of returning function. In this case anastomosis would have been called for if atrophy had taken place. It is, therefore, necessary to be alert, but not to interfere when there is still a chance for spontaneous recovery. On the other hand, it is just as essential to operate in time to save muscular tone; for when the muscles have become too flabby, complete recovery is out of the question and. in fact, considerable lameness often is observed years after the operation. Perhaps complete restoration does not occur in any case; the defect, however, can hardly be noticed unless the muscles are brought into strenuous play. With partial anastomosis it is doubtful as to what the result will be, for regeneration is extremely slow in such cases. But no matter how little function is obtained, it is always an improvement on total paralysis; to operate, therefore, is commendable.

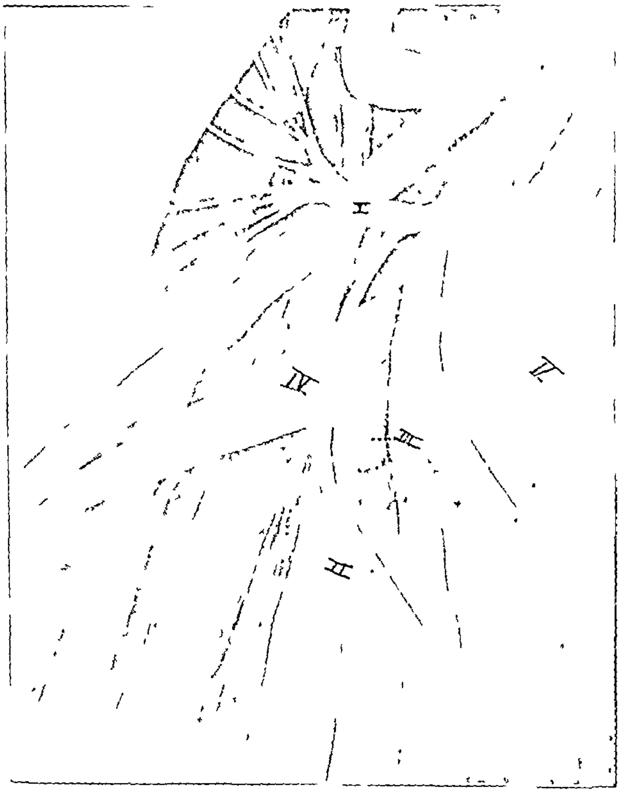

Fig. 1—Facio-hypoglossal anastomosis; showing relations of nerves to muscles I, facial nerve; II, spinalaccessory nerve; III, transverse process of atlas; IV, posterior belly of digastric muscle; V, sternocleidomastoid muscle

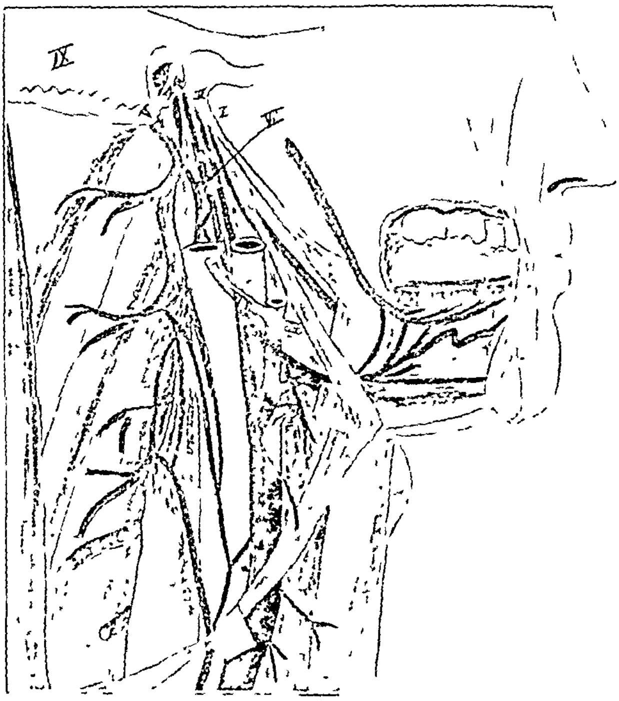

Fig. 2—(After Gray) showing general relations of nerves and vessels. I, glossopharyngeal; II, pneumogastric; III, hypoglossal; IV, spinalaccessory; V, cervical plexus; VI, descendens noni; VII, communicating branches between the hypoglossal and pneumogastric and between the latter and the brachial plexus; VIII, occipital artery; IX, sternocleidomastoid.

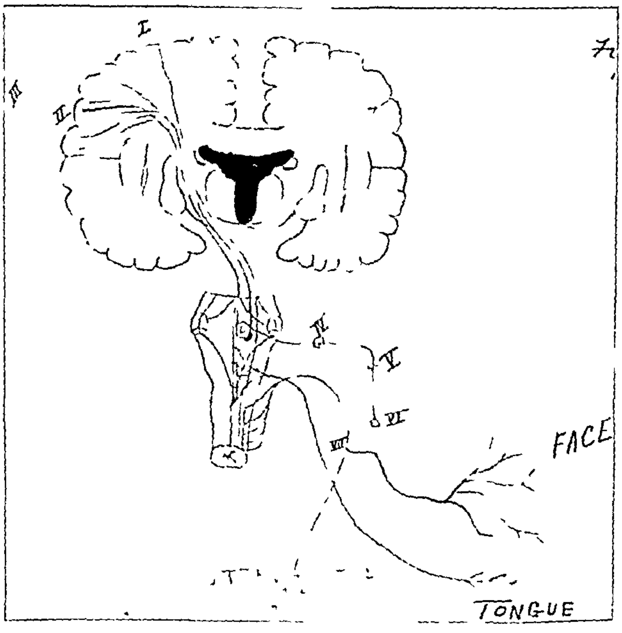

Fig 3—(After Murphy) showing cortical centers I, shoulder center; II, tongue center; III, face center; IV, internal auditory meatus; V, seat of injury; VI, stylomastoid foramen; VII, faciospinalaccessory anastomosis

The particular nerves to be united is of some importance. Most anastomoses were done, with varying results, between the facial and spinal accessory, because of the close proximity of the two nerve trunks. Progress seems to have been slow and symmetrical twitching of the shoulder with movements of the facial muscles is annoying. To obviate this, the hypoglossal was selected for the following reasons: The facial and hypoglossal centers in the cerebral cortex actually overlap each other; some observers have even claimed that fibers have been traced from one to the other centers, thus acting, as it were, in conjunction, having something in common. Very close association is also found in the medullary centers (Fig. 3). The spinal accessory is quite removed from the cortical center of the facial and really has nothing in common with it. The muscles of the shoulder also are supplied by the branches of the cervical plexus and, therefore, do not remain entirely motionless when the spinal accessory is cut. The muscles of the tongue supplied by the hypoglossal always recover provided the nerve is not severed; the inconvenience of swallowing lasting a very few weeks. All things considered, the hypoglossal is the preferable nerve although the spinal accessory is easier to manipulate.

Having decided to operate, the field is prepared in the usual way. An incision is made along the anterior border of the mastoid process and the outer border of the sternocleidomastoid muscle on a level with the external auditory meatus through the skin, superficial fascia and platysma myoides. The parotid gland with its capsule, which is in the superficial layer of the deep fascia, is then drawn forward and the facial nerve sought for. After drawing the gland forward the posterior belly of the digastric muscle is exposed which may also be drawn forward, or, if too large, cut transversely (Fig. 4). By feeling for the styloid process the nerve can readily be felt as a round cord under the finger; it is then freed from its connective tissue and traced to its exit from the styloid foramen. It may now be severed by a thin knife or, to gain more of the nerve, it may be better to chisel through the mastoid process down to the facial canal and thus gain another eighth or quarter of an inch, then cut it off and turn the proximal end out of the way.

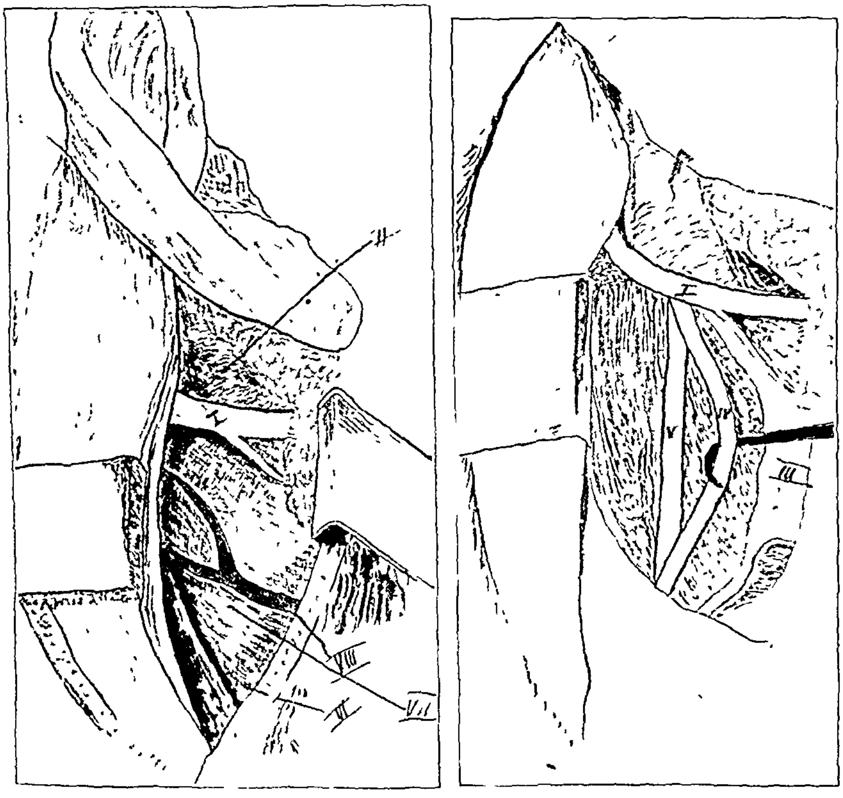

Fig. 4.—(After Taylor and Clark) laying bare the pneumogastric. I, facial nerve; II, styloid process; III, internal jugular vein; IV, hypoglossal nerve; V, pneumogastric nerve; VI, posterior belly of digastric; VII, transverse process of atlas; VIII, occipital artery.

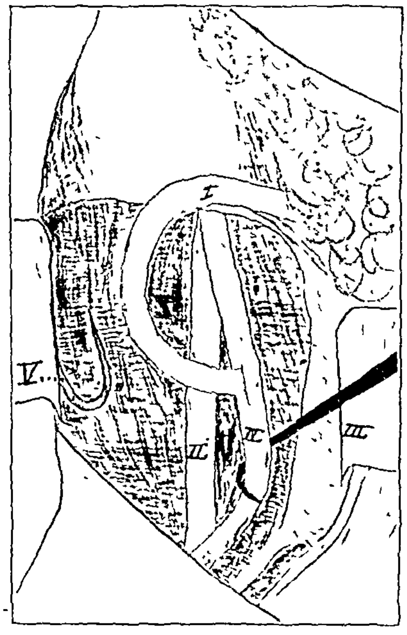

Fig. 5.—(After Taylor and Clark). Anastomosis. I, facial nerve; II, pneumogastric nerve; III, internal jugular vein; IV, hypoglossal nerve; V, occipital artery.

The transverse process of the atlas is then sought and can readily be felt. The spinal-accessory nerve runs over this transverse process. The deep fascia is incised anterior to the process. The jugular vein now comes into view and with a retractor is held forward; by trying to draw it backward, it is almost impossible to explore the underlying parts. Under the jugular vein are seen the pneumogastric and hypoglossal nerves. It is necessary to select the right one; some kind of stimulation will point to the right direction. If the pneumogastric is stimulated a sudden halt will be noticed in the heart's action while if it be the hypoglossal the muscles of the tongue, the sternothyroid, thyrohyoid, styloglossus, hyoglossus, geniohyoglossus and geniohyoid will be made to respond. If no battery is handy one may follow up the nerve to the forward bend where it gives off the descendens noni. The nerve is then loosened from its bed without injuring its communicating branches with the pneumogastric. Under the deep fascia the sympathetic ganglia are felt; by cutting through this fascia the pharynx can easily be entered and the cervical ganglia also injured; careful dissection, therefore, is necessary.

Having selected the nerve it should gently be dissected out and raised on a blunt hook and incised through the sheath so as to admit the severed trunk of the facial (Fig. 5). A suture should now be passed through the sheath of the hypoglossal, making the needle emerge at the incision, and then passing it through the facial sheath and again through the severed sheath of the hypoglossal when it should be tied. This will insure positive coaptation without injury to the neurolemma, for it is important to retain the carrying power intact or the functioning result will be diminished according to the amount of neurons destroyed. If the facial nerve is too short it may be necessary to split the hypoglossal nerve for from 13 mm (½ in.) to 2 cm (¾ in.) and bring the one end to meet that of the facial (Fig. 6). Of course the result here is much less favorable than when the entire nerve can be utilized In one patient I have been able, so far, only to elicit movement of the lower lid after eight months

When the suture is placed there must be no tension on either nerve The hypoglossal is allowed to fall back into its bed, the point may be covered with Cargile membrane to prevent the connective tissue interfering with the new physiologic function or one may drop a little sterile vaselin over the joint which will effectively protect it Paraffin also may be employed, but it is not so pliable as vaselin

The result of this operation leaves much to be desired it is true, but even a change in expression from total paralysis is an improvement in the patient's appearance and for his mind The operation should be performed in every case where paralysis is prolonged and bids fair to stay, atrophy of the muscles is a very safe indicator

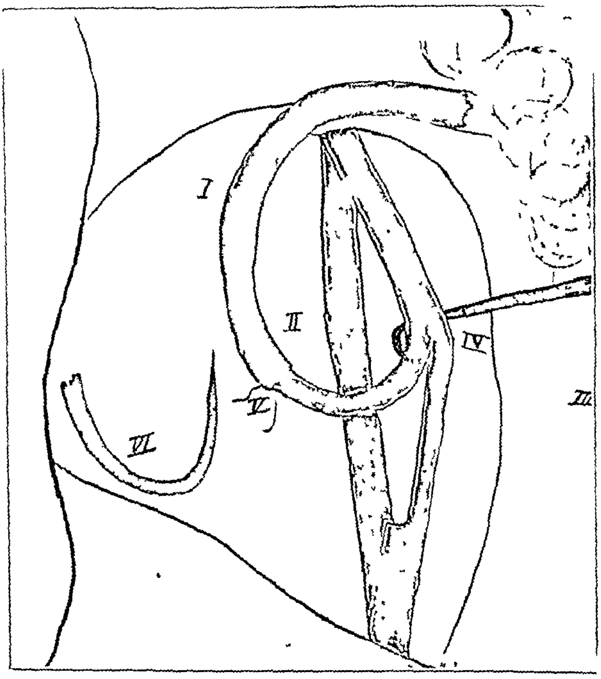

Fig 6 —Anastomosis when facial nerve is too short and the hypoglossal has been split, I, facial nerve; II, pneumogastric nerve, III, internal jugular vein, IV, hypoglossal nerve split, V, facio hypoglossal anastomosis; VI, occipital artery

After operation many months may pass without any response, but finally after six, eight or ten months one will notice slight twitching of the angle of the mouth. When the orbicularis oris is supplied by both facial and hypoglossal nerves, as is claimed, or, when it is influenced by the hypoglossal through its cortical center, there is little significance to be attached to its movements, but when the zygomatic responds to the will it is a sure indication of returning motion, for the latter muscle is supplied solely by the facial nerve. Shortly after the operation it is quite necessary to stimulate the facial muscles by using massage or electricity or both, and continue until sufficient movement of the facial muscles is obtained, which may mean several years. One must not become discouraged too easily, for persistent effort often begets laudable results.

The suture material should be made of rat-tail tendon. Catgut may become absorbed too soon and silk may cause too much destruction of nerve tissue acting actually as a foreign body. Silkworm gut and kangaroo tendon are too unwieldy for work in this delicate structure. Long strands may be best obtained from the white rat, which yields thirty or forty strands of about five inches in length.

In 1905 a report by Kasper Pischel on the use of rat-tail tendon in surgery of the eye was seen by Dr. King, who thought that this material would be suitable as nerve suture and during that year experimented with it on cats. During the past year Dr. King and I have experimented further in the use of rat-tail tendon following the technic devised by Dr. King for implantation (Fig. 7). This method is equally suitable for a right-angle or oblique implantation and our experiments have demonstrated the practicability of both the suture material and the method.

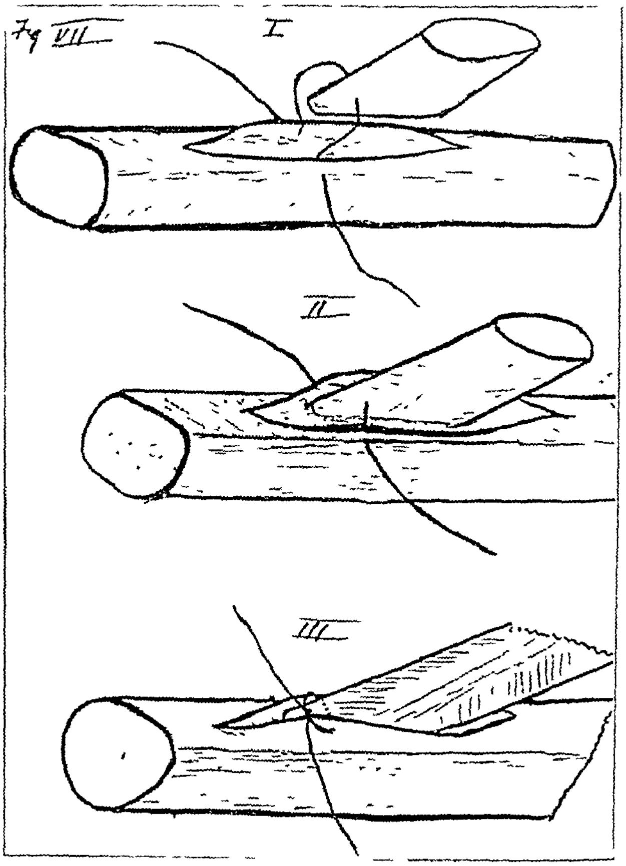

Fig 7.—Illustrating King's method of lateral nerve anastomosis with use of rat-tail tendon

For a classical dissertation on the subject of neurologic surgery I would refer to the articles by Dr. Murphy of Chicago and on special surgery of the facio-hypoglossal nerves to articles by Doctors Taylor and Clark of New York. I have culled liberally from both of these sources and have used them as a guide in my operation.

1248 Main Street.

DISCUSSION.

Dr. Joseph C. Beck, Chicago: I have operated on seven living subjects and a number of cadavers by the method advocated by Dr. Cott. The operation on the living subject and the operation on the cadaver are absolutely different. Again, cases vary according to the condition about the mastoid process and the neck, for, if there has previously been a pathologic condition, suppuration and drainage, there will be considerable scar formation, which will make dissection most difficult. Another point not dwelt on sufficiently was the use of the test of electricity, known as the reaction to degeneration, necessary in every case to determine whether an operation is to be performed or not. If one should obtain no contraction of the muscles of the face by the use of the galvanic current over the muscles there is no use in operating. The patient may have a facial paralysis, due to an involvement, or even complete severance of the nerve, and make a complete recovery without operation. If the severance is of any great extent, one-eighth or one-fourth of an inch, there will very likely not be any spontaneous recovery, because this gap will fill in with scar tissue, preventing union between the central and peripheral end. Complete recovery from this operation, that is, movement of the face, is the best result that one may hope to obtain. That result—voluntary movement of the afflicted side of the face—has been seen but rarely. I have one case in which this can be demonstrated. The patient can always move the side of the face in connection with the act of swallowing, but not independently. There are about two dozen cases on record which Dr. Cott has not cited, but most of these are reported in foreign literature and very poorly indexed.

Finding the facial nerve is one of the most difficult portions of the operation, especially when there are scars within the region of the mastoid process. I have not been able to locate it over the stylomastoid process, as he has, but I find it much easier to trace it to the capsule of the parotid gland and then follow it toward the stylomastoid process. Murphy has called attention to the danger of injuring the parotid gland. It has been my misfortune to have salivary fistulæ in two cases as a result of such injury, and the closing of the same required a long time. This complication is to be avoided by carefully manipulating the structures, especially by not using sharp retractors. I have operated in seven cases, but was successful in only three. Sufficient time has not elapsed for one to say whether or not the other patients will recover. The shortest time of recovery on record is three months, which occurred in one of my cases. This, I believe, was due to the fact that I knew that the patient could not recover the function of her facial nerve without operation, and consequently I operated after the paralysis had existed only six months. Just as soon as one decides that spontaneous recovery is very likely not going to take place, one should operate without loss of time, and as a result the recovery will be that much more rapid.

There is not another structure in the human body that stands as much tension as nerve structure, and, if properly united, one need not fear bad results from a little tension. The tension that is thus put on the facial has no effect on it whatever.

Dr. A. Jansen, Berlin: I advise waiting a considerably longer time than has been indicated in paralysis following operation for pus, for I confidently expect that even as long as a year and a half after such a condition has existed spontaneous recovery will occur; and certainly one would rather have such a result than an unnatural anastomosis with any other nerve.

Dr. George F. Cott, Buffalo: We all know how much tension a nerve will stand. This nerve will stand absolutely none. I want to emphasize it. That is the reason we use the rat-tail tendon for the suture; it tears out if there is any tension. The nerve must be perfectly flaccid. I do not want to imply that this is a simple operation, by any means. I think that every specialist in otology ought to know how to do it, and not send it to the surgeon. I have worked as long as three hours and ten minutes on my case. It is necessary to work extremely carefully. In regard to finding the facial nerve over the styloid process, when the nerve is large enough it can be felt, not especially when it is degenerated, but when it is there and is of any thickness at all.

Some positive results ought to be obtained within six months. I do not think that complete recovery ever results. It may take two years to obtain any marked improvement

A METHOD OF COMPLETE NEPHRO-URETERECTOMY FOR RENAL TUBERCULOSIS IN WOMEN.

E. ZEH HAWKES, M.D.
NEWARK, N. J.

The ureter is firmly attached at each end—to the kidney above, to the bladder below. Between these points it is loosely adherent to the peritoneum and embedded in lax areolar tissue. If separated from its bladder attachment the normal ureter can be pulled up out of the pelvis by traction on its kidney end. In ten consecutive experiments on cadavers—male and female—through a median abdominal incision I cut the ureter free from the bladder and then lifted out the kidney, its blood vessels being severed at the hilum. The ureter was pulled up with the kidney and removed unbroken.

Infections from without, especially pelvic cellulitis or carcinoma, may firmly fix the ureter, also perinephritic infections. Infections from within the ureter, however, seldom pass through the ureteral wall. The ureter may be ulcerated, strictured or dilated, yet will probably maintain its normal looseness of attachment. Howard Kelly, in his "Operative Gynecology," says: "A periureteritis due to an inflammation extending from the interior of the ureter is rare; I have not yet encountered it in any case." We may, then, expect to find the normal looseness of attachment of the ureter in uncomplicated cases of tuberculosis of the kidney and ureter. The problem of complete nephro-ureterectomy for renal tuberculosis, therefore, is a questio [illegible] the lower end of the ureter from the [illegible] I have devised the following operation:

Put the patient in the knee-chest position and, after the Kelly technic, a searcher is introduced as far as it will go into the diseased ureter and left there. A Sims speculum, the largest possible, is now inserted into the vagina, the perineum retracted upward, and the light reflected into the vagina. Raising the searcher causes a ridge corresponding to the underlying searcher and cystoscope to appear in the vagina (Fig. 1). Along the summit of this ridge, beginning at the tip of the searcher, the vagina is split and the ureter exposed; beyond the tip of the searcher it is not safe to cut because of the uterine vessels.

By blunt dissection with a curved artery clamp the exposed portion of the ureter is isolated. The clamp is also thrust along the ureter into the cellular tissue of the broad ligament and the ureter loosened from its surroundings beyond the upper end of the incision. The bladder is now widely separated from the vagina on each side of the incision and forward of the end of the ureter, the purpose of which is to allow secure closing of the bladder, as will be explained later. Near its insertion into the bladder the ureter is now tightly tied with celluloid thread so that when the bladder is opened urine can not come down the ureter and soil the wound.

Traction away from the bladder is made on the ureter, an infundibulum being thus produced, the base of which is the bladder wall (Fig. 2). The top of this infundibulum is cut across with scissors, thus freeing the end of the ureter and opening the bladder. The end of the ureter is sterilized by means of the actual cautery and pushed up into the vault of the vagina while the bladder is being closed. Avoiding its mucous membrane the bladder is closed with two rows, one on the other, of No. 2 plain catgut. A wide area of bladder wall is thus infolded, giving a strong water-tight support during healing and a broad and strong cicatrix. If this be done, one need not fear leakage and need not use a self-retaining catheter. The vaginal mucous membrane, except at the upper end of the incision, is closed, either separately or included with the second row of bladder catgut.

Because of the position of the patient the opening and closing of the bladder has been accomplished without soiling of the wound by bladder contents. Of the left ureter a greater length can for anatomic reasons, be freed. The operation is easier in the capacious vaginæ of parous women.

The position of the patient is now changed to that customary for oblique lumbar nephrectomy and the kidney freed from its vessels, the ureter, of course, not being cut. The lumbar incision need be no longer than would be necessary to isolate and remove the kidney alone. The hand is now passed retroperitoneally along the ureter down into the pelvis, making what separation of the ureter may be necessary, and without difficulty the lower free end is grasped and brought up out of the lumbar wound. The wound is closed except for rubber tissue drainage.

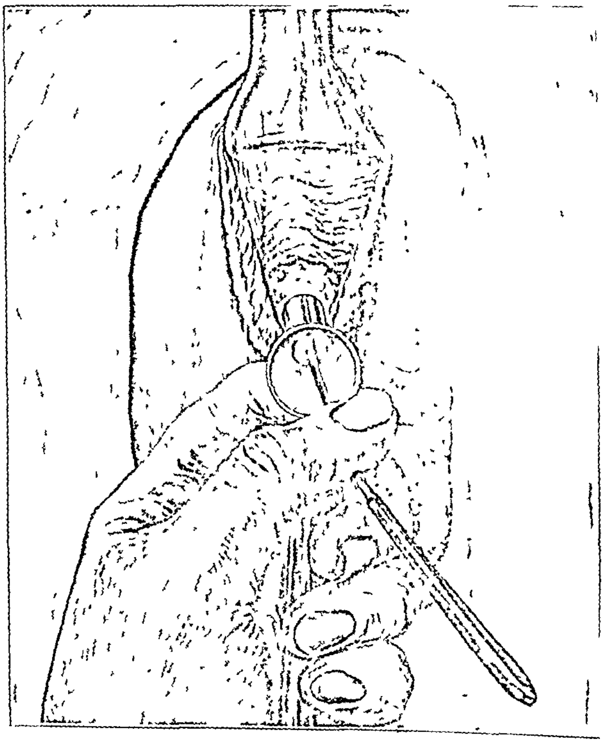

Fig. 1—The patient is in the knee chest position The cystoscope has been introduced through the urethra into the bladder and the searcher through this into the ureter. A Sims speculum sharply retracts the perineum, disclosing the ridge caused by cystoscope and searcher. The incision is made along the summit of this ridge

REPORT OF A CASE.—*History.*—Mrs. C., aged 30, mother of two children, was always well until 1902 when she began to have pains in groins and in lower back. Consulted Dr. William M. Goodwin of Newark, N. J., February, 1903, who found the perineum lacerated and the uterus retroverted. In May 1903 complained of ilio-lumbar pain. Examination showed prolapse of left kidney. About this time the patient became pregnant. Repeated examinations during next few months showed neither albumin nor pus in the urine. In March, 1906, she had measles During the next year the pain in left lumbar region increased and in the Spring of 1907 began to radiate down in the direction of the ureter, and micturition became more frequent. About June 1 she had a chill and took to bed and had the additional symptom of painful micturition During the next four weeks the temperature varied between normal and 102 F. Dr. Goodwin discovered, on vaginal examination, a tender ridge in the anterior vaginal wall, which he diagnosed as a thickened ureter. Examination of urine showed pus and tubercle bacilli. Patient entered my service at Newark City Hospital June 29, 1907.

Examination She was thin but not emaciated; pale, but in fair general condition Heart, lungs, and abdomen negative. Left kidney palpable freely movable, somewhat tender. By vagina, left ureter palpable, thickened and tender, uterus in retroposition Mixed urine showed pus and tubercle bacilli Urine from right kidney negative, from left kidney positive as to pus and tubercle bacilli.

Operation July 2 1907, the ureter was isolated and separated from the bladder by the operation just described and the bladder closed Through a lumbar incision the kidney and ureter were isolated and removed as above detailed. The kidney contained several tuberculous abscesses and the ureter was irregularly thickened and dilated. Patient made a good convalescence

Postoperative History. April 24, 1908, Dr. Goodwin stated that for a considerable time after leaving the hospital the patient had an induration to the left of the cervix, which drew the cervix to the left and allowed the fundus to tilt to the right. She continued to have a pain in the back and right side, which pains were relieved by a pessary. She had gained twenty pounds and was in good general health. There were no urinary symptoms.

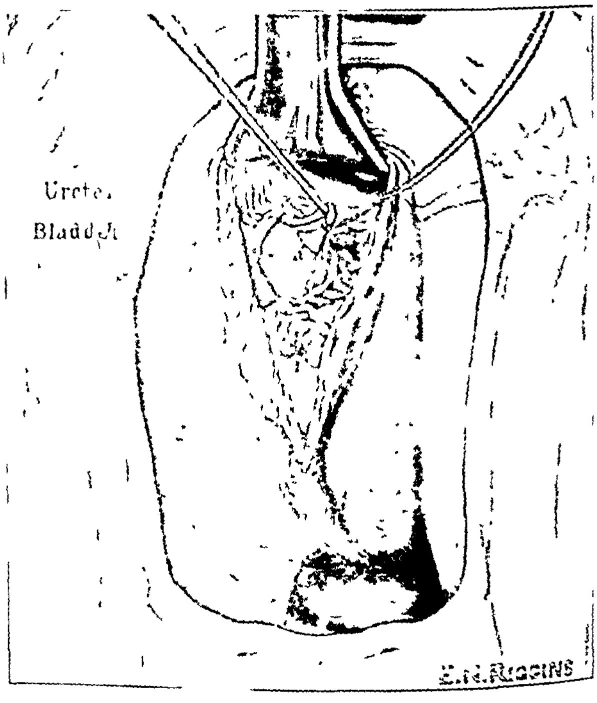

Fig 2—The vagina has been incised, the ureter freed and tied and the vagina widely separated from the bladder. Traction has been made on the ureter in the direction away from its attachment an infundibulum of the bladder wall being thus produced The ureter is to be cut free from the summit of this infundibulum, at dotted line a.

Infantile Pseudo-leukemic Anemia.—C. Cohen calls attention to the fact that each of the children presented evidences of rachitis in the six cases he describes in a communication in the *Rev. mens. d. Mal. de l'Enfance*, for July, 1907. In the cases on record, also, the presence of signs of rachitis is invariably mentioned. This suggests a possible connection between the rachitis and pseudo-leukemic anemia which further histologic study of the blood-forming organs may explain.

A SPECIAL DIAGNOSTIC PHENOMENON IN CEREBELLAR DISEASES.

REPORT OF SIX CASES, FOUR OF WHICH CAME TO AUTOPSY.

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A localizing diagnosis of cerebellar diseases presents at times some difficulty. Among all the symptoms, palsies of cranial nerves are very important, but when they are absent the determination of the seat of the lesion bec[illegible] Certain attitudes of the body, and [illegible]ad, may be present in some cases, and when they do occur they are of considerable assistance in localizing the lesion.

The following six cases have been studied by me from the latter standpoint. The correct diagnosis of four cases was verified on postmortem examination. The other two presented the classical symptom-group of cerebellar tumors. The special phenomenon to which I wish to call special attention was present in each of the cases. The inference drawn as to the seat of the tumor was corroborated postmortem.

Case 1.—*History.*—William R., aged 12, five years ago began to show symptoms of gastrointestinal disorder. There were occasional nausea, eructations, aversion for certain articles of food and also slight headache. For months he was considered a dyspeptic and treated accordingly. Then the headache gradually increased and vomiting made its appearance. Soon the child commenced to complain of dimness of vision. Dr. W. W. Keen was first consulted in 1904 and he referred the patient to me for an opinion. At that time I made the following observation: The headache was excruciating, vomiting was frequent, the gait distinctly cerebellar (titubation) with a tendency to walk towards the left. Blindness was partial. The knee-jerks were abolished on both sides. The Babinski sign was present on the right side and paradoxical reflex on both sides. The lower part of the face was deviated to the right. The pupils were unequal, the left the largest. Nystagmus was marked on lateral movements of the eyes especially when the latter were turned to the left. The eye grounds showed choked disks on both sides, more on the left than on the right. Gradually the condition became worse. The patient's headache got unusually intense, he lost the power of locomotion, had frequent attacks of vomiting, became totally blind and the head was held inclined on the left side.

Diagnosis.—Cerebellar neoplasm, probably on the left side.

Treatment.—A course of treatment with iodids gradually improved the condition so that at the end of a few months he was free from headache and vomiting. The suffering disappeared, but the blindness remained. The little patient was able to walk, his sleep, appetite and digestion were excellent. The head remained inclined to the left side, the left facial palsy was unaltered.

Subsequent History.—After a period of two years the symptoms began to return. The following symptoms were then observed: Headache, but no vomiting; total blindness; deafness of the left ear; paralysis of the external recti more in the left eye than in the right; nystagmus more on movement of the eye to the left than to the right; inability to walk or stand, but no paralysis of the limbs; the knee-jerk abolished; Babinski sign and paradoxical reflexes present on both sides. Sensations were normal. The striking symptom was the unavoidable necessity for the patient to hold his face turned to the right side, as whenever he or any one would turn it to the left, a most intense vertigo would appear. At this stage of the disease the position of the head changed, viz., from the left to the right and remained in this position until the end, but the appearance of vertigo on turning the face to the left made the association very important. The change in the position of the head appeared six months before the patient died.

Autopsy.—The autopsy showed a soft tumor in the left cerebellar hemisphere pressing partly on the vermis and forward on the superior cerebellar peduncles. No permission was granted by the relatives to remove the specimen for microscopic examination.

Case 2.—*History.*—S. M., girl aged 9, with good family and personal histories, fell down a flight of thirteen steps, striking her head. She was not unconscious but bled considerably from the nose, and vomited. Two days later she vomited again and kept on vomiting almost daily until death, viz., for a period of five months. During all that time she suffered from severe headache. Two weeks after the accident she began to hold her head forward and inclined to the right. An attempt to turn the head to the left produced an intense vertigo which was immediately relieved when the head was placed in the former position.

Examination.—On examination, I found the position of the head as described above, marked titubation with a slight tendency to fall towards the left, increased knee-jerks and paradoxical reflex on the left. The eyes at that time, viz., two months after the accident were normal except for a dilatation of the pupils. In spite of the absence of characteristic eye symptoms my diagnosis was that of a cerebellar tumor and probably on the left side. Subsequent events proved it to be correct. Two and a half months later the eye examination showed the pupils slightly responsive to light, but not to accommodation nor to convergence; right optic nerve hyperemic and retinal veins tortuous and overfilled; left optic neuritis low in grade, but acute, neighboring retina edematous. At the same time the headache increased and the vertigo on turning the head to the left was intense. The vomiting continued. The patient grew worse and one morning she was found dead. In this case the peculiar position of the head appeared immediately after the severe symptoms set in.

Autopsy.—The dura was tense over the entire brain especially on the left side posteriorly. There was an excess of fluid at the base. Projecting from the lower aspect of the left lobe of the cerebellum was a mass, grayish in color and very fragile, the outer portion being as soft as brain substance. The growth extended from slightly across the median line to the right outward at a distance of 6 cm. Anteroposteriorly it was 5 cm. in extent at the point of attachment. It attain an elevation of 4 cm. A portion of it was adherent to the dura and separated by its own weight from the underlying portion of the growth. The growth extended for some distance into the cerebellar lobe to which it was quite loosely attached. Microscopically the tumor proved to be tuberculous. (See illustration.)

Case 3.—*History.*—S. L., man, aged, 35, presented the following symptoms: Vertigo, vomiting, occipital headache, and diplopia.

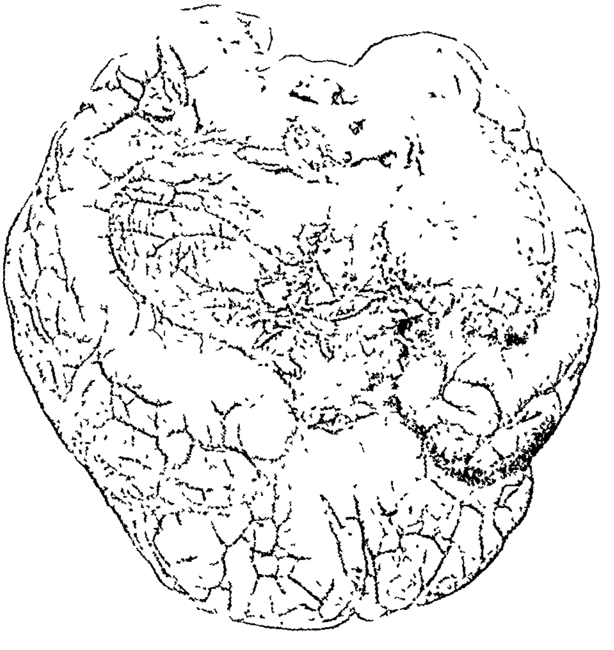
Examination.—There was marked titubation with a tendency to fall towards the right, nystagmus on lateral movements of the eyes, diminished knee-jerks, right hemiasynergy and inclination of the head toward the left. The fundi of the eyes showed choked disk on the right, congestion on the left. The headache was intense. An operation was declined by the patient and his relatives. He left the hospital. Two months later I saw him and found the condition unchanged. The position of the head toward the left was fixed and the slightest attempt to turn it to the right produced an intense vertigo. I have had no opportunity to see him since. In this case the special position of the head remained unchanged during the entire time of observation, viz., five months.

Case 4.—*History.*—W. L., man, aged 49, was admitted to the Jefferson Hospital during summer 1906. He complained of severe frontal headache, vertigo and vomiting. Titubation, nystagmus, loss of knee-jerks with Babinski's sign and double optic neuritis were the other signs of presumably cerebellar disease. The head was drawn backward with [illegible]

[illegible] before the American Neurological Association, May [illegible]0, 190[illegible] [illegible]lphia.

slight inclination towards the left, but when it was turned to the right, vertigo became intense. The patient died and no autopsy was allowed. The special attitude of the head remained unaltered during the six weeks of observation at the hospital and according to the patient's relatives, had been noticed from the beginning of the disease.

Case 5.—*History*.—S. G., married woman aged 29, was treated for two years for gastric trouble, accompanied by nausea and vomiting. She then sustained an accidental injury, falling off a car. Soon violent headache developed which was confined to the left side of the forehead. The vomiting became more frequent. I saw her six weeks after the injury and she presented in addition to the above symptoms distinct titubation with a tendency to fall toward the left, diminished reflexes, nystagmus on movements of the eyeballs to the left and partial blindness. The eye grounds showed choked disk on the left and optic neuritis on the right. The head was inclined to the right and the least attempt to turn it to the opposite side caused an intense vertigo and nausea. The patient died and a soft tumor was found in the left cerebellar lobe directed downward and forward. The husband strongly objected to the removal of a smallest portion of the tumor. The nature of the neoplasm, therefore, could not be determined. According to the relatives' statement the head at first was inclined to the left, but three weeks before death turned to the right.



Tuberculous tumor of the cerebellum. Brain of patient in Case 2, showing tumor mass on lower aspect of left lobe of cerebellum.

Case 6.—*History*.—A. H., girl, aged 16, while playing two years previously, was struck on the head by a brick. The accident was followed by an attack of unconsciousness lasting fifteen minutes. Five hours later she had a severe vomiting spell. During the following three months she suffered from headache and insomnia. The symptoms gradually subsided and for a period of eighteen months she would only occasionally complain of headache in the occipital region. Three months before her death she fell, after which the headache became very severe and it was accompanied by vertigo. She complained of dimness of vision. The head soon assumed a certain position. It was drawn slightly backward and inclined to the left. As the headache kept on increasing in intensity the patient instinctively sought various positions in anxiety for relief. The head was then held by her, inclined to the right. She claimed that this was the only position which made the headache more tolerable and in which the vertigo was almost entirely absent. As soon as she would straighten it and turn it to the left, an intense vertigo would set in and she would fall.

Examination.—Examination of the eyes showed a choked disk in the left and slight optic neuritis in the right. Nystagmus was present on lateral movements of the eyes and equally on both sides. Blindness was rapidly increasing. The gait was somewhat ataxic, but presented no distinct titubation. Sensations were not impaired. Respiration and deglutition were normal. The headache remained severe and the intense vertigo on turning the head to the right remained until death. My diagnosis was a cerebellar tumor on the left. An operation was declined.

Autopsy.—At the autopsy a small soft mass was found on the upper surface of the left cerebellar hemisphere pressing on the vermis. No permission was given for removal of the specimen.

The four cases that came to autopsy are conclusive as to the relation of the attitude of the head to a cerebellar disease. In the two purely clinical cases the symptoms of the cerebellar tumors were so typical that there is no doubt as to the diagnosis. In all six of the cases the head assumed a certain persistent position.

In four cases it was turned to the side opposite the lesion during the entire course. In two of them it was inclined at first toward the seat of the lesion, but sometime before the patients died the head changed its position. All the six cases are a good illustration of the fact that in cerebellar diseases, generally speaking, a special attitude of the head is a pathognomonic sign. If I omit the purely clinical cases and confine myself exclusively to the four clinico-anatomic cases I am warranted to say that the field of surgical operations in cerebellar cases should be decided on from the position of the head when the latter is in an abnormal attitude.

Special emphasis is needed in regard to the increase of vertigo and headache when the inclined heads were turned forcibly toward the side of the lesion. This observation is quite novel. In the literature at my disposal I have been able to find one similar but not identical case published by Laruelle.[1] He localized the tumor in the left cerebellar hemisphere because the head was inclined toward the same side. The tumor, however, was found on the right. The record also shows that each attempt to turn the head to the opposite side provoked an unusual pain.

This case, taken in connection with mine (in which there was particularly vertigo instead of pain in similar manipulations of the head), appears to me quite significant from the standpoint of localization of cerebellar tumors. Its importance is obvious. The clinical observation of my six cases, or at least of the four that came to autopsy, is analogous to the experimental fact observed by Risien Russell. The latter showed that after ablation of one lobe of the cerebellum the trunk of the animal is curved with the concavity to the side of the cerebellar lesion, the side of the face is approximated to the shoulder on the same side.

This peculiar change of position of the head during the evolution of the cerebellar syndrome did not occur in each of my cases at the same period of the disease. In the first case it occurred six months before death; in the fifth only three weeks before the fatal issue. In the third, fourth and fifth cases the head assumed from the beginning the abnormal position with increase of vertigo and headache on turning it to the side of the lesion. In the second case the fixed position of the head on the side opposite to the lesion appeared after the severe symptoms set in.

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[1] Rev. Neurolog., 1906, No 4.

It is impossible to say why the change of position of the head occurs at various periods in various cases. It is also difficult to say why the change occurs at all and why when the head is turned toward the lesion the vertigo and headache become intolerable. At all events, it is useful in my opinion to retain this fact that in my cases at least the increase of vertigo caused by placing the head in an opposite position was an indication for the seat of the cerebellar tumor. The number of my cases is certainly too small to draw definite conclusions. Further observations are, of course, necessary. The phenomenon in question, however, is, I believe of a diagnostic value.

In the above-mentioned record of Laruelle the phenomenon escaped the author's notice, but, nevertheless, it was present and verified by the autopsy.

PATHOLOGIC REPORT OF THE NERVOUS SYSTEM IN A CASE OF SPONDYLOSE RHIZOMELIQUE.[*]

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A study of the nervous system in cases of spondylose rhizomelique and allied conditions has been made only in a few cases, those of von Bechterew,[1] Leri,[2] Reuter,[3] Fraenkel[4] and McCarthy,[5] to which reference will be made later.

In the case which forms the basis for this report the brain, spinal cord, peripheral nerves and muscles were examined, and pathologic changes, though slight, were distinctly observed. The addition of this case, therefore, to the meager literature of the subject, at least so far as a study of the nervous system is concerned, throws some light on a subject about which there exists much diversity of opinion.

History.—The patient, Z., was a man, aged 64, whose history, unfortunately, can not be given, except that he was admitted to the Philadelphia Home for Incurables, Sept. 29, 1903, and remained there, practically in the same condition as to the symptoms under discussion, until his death on June 18, 1907. I examined him a week before his death, although I had previously frequently observed him without careful examination.

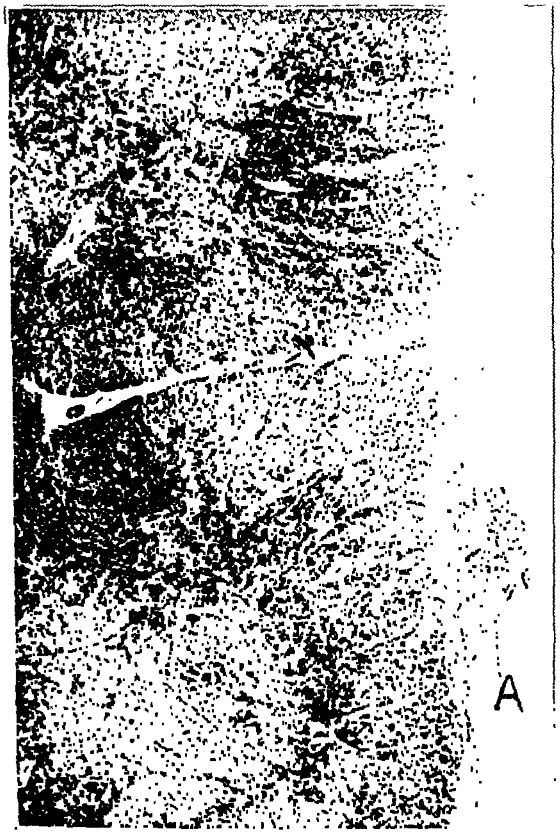
Examination.—The entire spine, including the articulations with the cranium and pelvis, was ankylosed, presenting the characteristic appearance of so-called "poker-back." There was ankylosis in both hips, knees and shoulders, although this was not complete. The arms could be moved about 30 or 40 degrees at the shoulders. The elbows, hands, ankles and toes were not involved. There was general emaciation at the time of the examination, so that the presence of local atrophies could not be clearly determined. There was pain in both sciatic regions, extending from the knees to the hips, but no pain was complained of elsewhere about the body. The spinal column stood out prominently, and the muscles of the back were probably wasted. Tests for pain, touch and localization gave negative results. Two months before death he developed tuberculosis, which became general, and from which he finally died.

Autopsy.—At the autopsy, when an effort was made to remove the cord, it was discovered that the entire spinal column presented the appearance of one bony mass. It was so hard that it was difficult to saw through into the spinal canal. On removing the spines and arches of the vertebræ a considerable amount of caseous material was found on the outer surface of the dura, extending from the lower thoracic, to the lower cervical region. There was no evidence of tuberculous bone disease, or tuberculous abscess, and macroscopically there were *no tubercles*.

The dura was adherent to the skull, and a few tubercles were found over the convexity of the brain. Both lungs were infiltrated by tubercles and were the seat of many cavities. The right kidney was also implicated.

The brain and spinal cord, the plantar nerves, sections of the sciatic and smaller sciatic nerves, and some of the muscles from the plantar surface of the foot were preserved for examination. The spinal cord was hardened in Müller's fluid, and stained by the Weigert method, and in hemalum, acid fuchsin, and thionin.

The white matter of the cord itself showed no abnormality. There was, however, a slight degeneration present in several of the roots. In the lumbar region the right anterior, and left posterior roots were slightly degenerated. In the lower thoracic region there was slight degeneration of the anterior roots. Elsewhere the roots stained normally.



Microscopic findings in a case of spondylose rhizomelique, showing degenerated spinal root at A (Weigert method).

The cells of the spinal cord in the spinal and cervical regions showed the following changes: Some were rounded, had lost their prolongations, and contained an excessive amount of yellow pigment. Clumping of the chromatic substance was present in some, and in a number of them the nucleus was dislocated, and the yellow pigment excessive.

The small sciatic nerve was slightly degenerated in cross sections. An abundance of fatty tissue was seen, and there was increase in the connective tissue. The plantar nerves were also degenerated. The large sciatic nerve was normal.

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[*] Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[*] From the Howard Hospital, and the Department of Neurology and Laboratory of Neuropathology of the University of Pennsylvania.

1. Deutsch. Ztschr. f. Nervenh., xv, 45; Neurol. Centralbl., 1892, p. 426; Deutsch. Ztschr. f. Nervenh., xv, 37; Ibid., 1897, No 11, p. 327.
2. Rev. neurol. 1905, p 1085, and Revue de méd., 1899, No 19, p. 597.
3. Ztschr. f. Heilk., 1902, No. 23, p. 83.
4. Fortschr. a. d. Geb. d. Röntgenstrahlen, 1903 4, p. 62.
5. New York Med. Jour., 1905, June.

In the left paracentral region there was marked perivascular distention, and slight infiltration of the pia. The same condition was found on the right side, where there was also some change in the pyramidal cells. Some of the cells were swollen, and the nuclei eccentrically placed.

A study of the muscle tissue from the plantar surface showed an increase in the number of the intramuscular connective tissue cells; irregularity in the size of the muscle fibers; loss of the transverse striations in some of the fibers and lumpiness of the muscle substance of individual fibers. There was no vacuolization. The blood vessels showed no endarterial thickening, or sclerosis.

A portion of the spinous process of one of the vertebræ was studied microscopically. The bone trabecula was compact but not unduly so. There was no evidence of any abnormal condition whatever. In fact the specimen presented the normal appearance of bone.

Summary.—A man of 64 presented the characteristic clinical manifestations of spondylose rhizomelique, i. e., rigidity of the spine, and partial ankylosis of the shoulder, hip, and knee joints. Pathologically there was slight degeneration of some of the anterior and posterior spinal roots, slight peripheral neuritis, and muscle taken from the plantar portion of the foot was degenerated.

While Marie and Leri[6] still assume that spondylose rhizomelique is a disease entity differing from the other forms of ankylosing disease of the spinal column—and especially separated from von Bechterew's type—there are many who maintain that these two varieties are but manifestations of one and the same disease.

The differences between the von Bechterew and the Strümpell-Marie types may be stated, according to Zesas,[7] as follows:

In von Bechterew's type (1) the spinal column is rigid; (2) kyphosis is always observed; (3) irritation symptoms are always present; (4) the joints of the extremities are intact; (5) etiologically there is a history of inheritance, trauma and lues.

In the Strümpell-Marie type (1) the entire spinal column is rigid; (2) kyphosis is not always present; (3) symptoms of irritation of the roots are usually absent; (4) there is an ossifying process in the joints of the extremities; (5) etiologically a history of rheumatism and infectious diseases is obtained.

In von Bechterew's[1] original case, with autopsy, there was no primary lesion of the vertebræ, and the rigidity of the spinal column was attributed to a secondary paretic condition of the muscles, the result of a compression of the nerve roots from a pachymeningitis. von Bechterew also believed that his type of spinal rigidity differed from that described by Strümpell,[8] under the name of chronic ankylosing spondylitis, in whose cases the head, spinal column and hips were firmly united and completely stiffened. Cases similar to those described by Strümpell have been reported by Marie and Anstie.[9] While in Strümpell's cases there were no root symptoms, these were pronounced in von Bechterew's cases, and in the former there was involvement of the great joints, which were intact in von Bechterew's cases.

Reuter,[3] while admitting that, clinically, there was a difference between these two types, claimed that this difference was not proved pathologically. He believes that such cases are due to a bony process to which he applies the name "ascending ankylosis of the spinal column, with bow-shaped kyphosis."

Siben,[10] Fraenkel,[4] Elliott,[11] and Rumpel[12] did not believe that any difference could be made between these two types, while Schlesinger[13] not only did not recognize any difference between these two types, but did not differentiate between arthritis deformans of the spinal column and other cases of rigidity of the spinal vertebræ. Nor, in Oppenheim's[14] opinion, was it decided that a difference existed between the various types of spinal ankylosis, either clinically or anatomically.

Zesas,[7] after reviewing the subject very carefully, concluded that the observations, so far, do not permit the view that, etiologically or symptomatically, and much less pathologically, these two forms were independent affections, and, according to Niedner,[15] the pathologico-anatomic substratum of the von Bechterew type was similar to that of the Marie-Strümpell type, and consisted of an ossification process of the cartilages and ligaments.

On the other hand, Glaser[16] reported a case in which the findings coincided with those of Marie's case, and more recently Marie and Leri[17] have maintained that there is a distinct type which they call "spondylose rhizomelique."

The autopsies of ankylosing disease of the spinal column which have been reported can be more or less divided into (1) those in which the small joints of the vertebræ are mainly affected, leaving the cartilages intact, or only slightly involved; (2) those in which the cartilages are especially altered; (3) those in which the process involves equally the small joints and the cartilages.

In the first category belong the cases of Marsh,[18] Glaser,[16] Milian,[19] Fagge,[20] Simmonds,[21] and Fraenkel.[4] In Marsh's case there was ossification of the ligaments and complete ankylosis of the several joints. There was no atrophy of the body of the vertebræ, nor any change in the intervertebral discs.

Glaser cited a case of chronic ankylosing inflammation of the spinal column, in which there was ankylosis of the articulating process, and between the ribs and the vertebræ. There was no involvement of the intervertebral discs, or the body of the vertebræ. He cites the case of Howard Marsh, in which the findings were similar.

In Hilton Fagge's autopsy (cited by Leri) the intervertebral cartilages were of normal appearance; the arches of the spinal apophyses were united by bone, and there was an osseous process, with complete destruction of the articulations. In Milian's case the vertebral column was immovable and bow-shaped, and the hips and shoulders were involved. There was an osseous disease of the articulations of the ribs and the bodies of the vertebræ. Intervertebral cartilages were normal.

Simmonds reported 2 cases in which there was intense ossification of the ligaments and an ankylosis of the joints of the vertebræ. Fraenkel reported 4 autopsies of chronic ankylosing rigidity of the vertebræ, in which the intervertebral cartilages were only slightly involved. The vertebræ were connected by broad bony bands, and the costo-vertebral articulations were implicated. The articulating processes were fused together. The process seems to have involved principally the articulating processes, including the spinous process. Fraenkel looked on the process as being a primary affection of the joints, that is, the articulating processes, the remaining vertebræ being intact. In the later stages of the disease there is a bony formation, which in some cases is confined to the sides of the vertebra or it may extend around the whole body of the vertebra. Sometimes the arches of a single vertebra or many vertebræ, and also the spinous processes, are involved. He stated that the process is an ossification of the articulations of the joints, and the bony formations are probably secondary, the vertebræ becoming involved by mechanical action.

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[6] Nouv. iconog. de la Salpêtrière, 1906, 19, p. 32.

[7] Deutsch. Ztschr. f. Chir., 1904, No. 74, p. 467.

[8] Lehrbuch der Specielle Pathologie, ii, 534; and Ztschr. f. Nervenh., xi, 338.

[9] Presse méd., 1898; and Marie: Revue de méd., 1898, p. 285.

[10] Ztschr. f. klin. Med., 1903, No. 49, p. 241.

[11] Am. Jour. Orthop. Surg., 1905-6, No. 3, p. 303.

[12] Deutsch. med. Wchnschr., 1905, p. 1130.

[13] Mitt. a. d. Grenzgeb. d. med. u. Chir., 1900, vi, 247.

[14] Lehrbuch der Nervenkrankheiten, 1905, i, 309.

[15] Charité-Ann., 1903, No. 28, p. 45.

[16] Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1901, No. 8, p. 282.

[17] Gaz. hebdom. de med., 1899, p. 209.

[18] Brit. Med. Jour., 1895, ii.

[19] Gaz. hebdom. de méd., 1899, p. 137.

[20] In Ehrhardt.

[21] Fortschr. a. d. Geb. d. Röntgenstrahlen, 1905, v, 51.

The cases in the second category are those of von Bechterew.[1] Ascoli,[22] Reuter,[3] Schlesinger,[13] Ehrhardt[23] and Elliott.[11] In von Bechterew's case, in which there was a study of the nervous system as well as of the bones, he believed that the disappearance of the cartilages was due secondarily to the fact that there was a compression of the cartilages, between the neighboring vertebræ, which was caused by the kyphosis. This kyphosis originally depended, according to von Bechterew, on the paralysis of the musculature of the thoracic spine. The compression of the cartilages, he states, naturally causes their gradual disappearance, and finally the surfaces of the vertebræ resting on each other fuse together.

The case of Ascoli[22] was cited by Leri. The articular cartilages were destroyed, and the articular head was the seat of multiple erosions and atrophy. The lesion was the same in the coxo-femoral, and in the knee, and vertebral articulations. There was no ankylosis.

Reuter reported a case from the pathologic museum, in which the articulating processes were united by bony substances, the heads of the ribs with the bodies of the vertebræ, and in which the intervertebral cartilages were for the most part destroyed, being replaced by a spongy, bony substance. The bodies of the vertebræ were markedly rarefied. The ligaments were also ossified. In a second case the entire vertebral column was fused together by means of bony masses, so that the borders of the intervertebral discs could not be seen. A further study revealed the fact that the intervertebral cartilages appeared to be ossified in part, and the new bone formation resembled the substance of the neighboring vertebral body.

In both of these cases Reuter believed that there was a chronic process causing a kyphosis of the vertebral column, bony ankylosis of the joints of the vertebræ and ribs, and the anterior part of the intervertebral cartilages. He assumed that it was a chronic inflammatory process of the joints of the vertebræ similar to that described by Ziegler as arthritis ankylo-poetica, a view held also by Elliott and Siben. In Reuter's cases there was a process in the cartilages analogous to normal bone formation. He acknowledges that this theory has been advanced by Leri, who found ossification of the ligaments, hypertrophy and destruction of the joints, and looked on the process as a healing one. Reuter's preparations did not support such a view, however.

In the eight preparations of spondylitis deformans from the Vienna Museum, Schlesinger distinguished two forms. In one the process was confined to the intervertebral cartilages, which were destroyed, the edges of the neighboring vertebræ being united by supra-cartilaginous exostoses. The bodies of the vertebræ were atrophied, and the small joints and ligaments were involved or remained relatively free.

In the second group, the more frequent form, the transverse process and ligamentous apparatus were chiefly affected. The ligaments were calcified, and there was proliferation of the synovial membrane leading to an ankylosis of the small joints. Siben thinks it doubtful that both of these forms could be considered as types of the same disease.

Ehrhardt examined the skeleton of a case of chronic ankylosing inflammation of the vertebræ in which not only the vertebræ were ankylosed, but the sacroiliac and hip joints also. The intervertebral cartilages had disappeared, a spongy, bony substance having replaced them, and this continued into the substance of the neighboring vertebræ. There were some osteophites present in the lower thoracic region, although nowhere united, as is seen in progressive cases of spondylitis deformans. Neither did these exostoses project into the vertebral canal. The vertebral joints were ankylosed throughout the entire spine, while the spinous processes in the cervical region were exempt. The intervertebral foramina were not narrowed, except at the tenth thoracic vertebra on the left side, and this by an irregular exostosis. This condition, he claims, explains the nervous symptoms better than the old conception of von Bechterew, that they were due to thickening of the meninges.

The ligaments between the ribs and the sternum were unchanged. The process was, according to Ehrhardt, a syndesmoginous synostosis of the entire vertebral joints, with ossification of the long ligaments, the ligamentum flava, and partial ossification of the intervertebral discs.

In Elliott's case the bodies of the vertebræ were normal, while the discs were atrophied and absent anteriorly. There were no bony bridges or exostoses, but there was ossification of the superior spinous ligaments, especially in the lumbar region. The spinous processes were, in places, ankylosed at their distal ends, and there was an ossification of the ligamentum flava. There was some evidence of exostosis in the lumbar region, where the articulating processes were completely ankylosed.

In the third category belong the cases of Forestier,[24] Leri,[2] Siben,[10] Marie and Leri.[17] Forestier examined 66 skeletons in which 17 presented the symptoms of arthritis deformans of the spine. Osteophites were seen on the anterior and lateral surfaces of the bodies of the vertebræ. The vertebræ were involved, and the articulating processes were deformed. The intervertebral foramina were diminished in caliber. The exostoses of the bodies of the vertebræ were very large and increased in size downward.

Siben cited a case with autopsy, in which the shoulder and hip joints, as well as the vertebræ, were involved. The small joints of the vertebræ were ankylosed, and the intervertebral cartilages were also the seat of a secondary change. There was evidence of an inflammatory process, and Siben proposed the name "chronic ankylosing inflammation of the vertebræ" after Strümpell.

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[22] In Leri.

[23] Mitt. a. d. Grenzgeb., d. Med. u. Chir., 1904-5, p. 226.

[24] Arch. gén. de méd., 1901, No. 2, p. 158.

In Leri's case the principal lesion consisted of an ossification of the ligaments. There was also a hypertrophy of the articulating processes, which fused together after all traces of the cartilages had disappeared. The lesion was a double one, consisting first of an ossification of the ligaments, and second, hypertrophy and fusion of the articulating extremities.

In a more recent case, reported by Marie and Leri, the findings confirmed the original theories advanced by Leri. i. e., that spondylose rhizomelique consists chiefly of an ossification of the ligaments and intervertebral cartilages, which is accompanied, or preceded by an osseous rarification.

In the cases of Chiari, cited by Reuter, the disease appeared to be principally confined to the ligamentous apparatus in the cervical region and was supposed to be due to polyarthritis rheumatica.

The case of Piogey[25] was evidently one of arthritis deformans, involving the spinal cord, to which may be added the case of McCarthy.

This classification, though more or less artificial, shows that there are some cases in which the process attacks by preference certain parts of the vertebræ. For example, in some the small joints are chiefly, if not exclusively, involved; in others the intervertebral discs suffer the greatest change, while in still others there is involvement of all parts of the vertebræ.

The impression which I have about these cases is that they are all more or less allied so far as their pathologic basis is concerned, though differing perhaps etiologically; and I feel inclined to follow the teaching of those who look on the Marie and von Bechterew types as expressions of one and the same process.

Examination of the nervous system in these cases is quite rare. Von Bechterew claimed a nervous origin for his case. He described a chronic leptomeningitis of the cervical region which compressed the spinal roots, and as a result of which the motor roots were less intensely degenerated than the sensory roots. There was marked degeneration of the white matter in the cervical and upper dorsal regions, especially in the columns of Goll and Burdach. The gray matter was not involved. The change in the roots was found especially in the upper thoracic and lower cervical regions. It was not present in the upper cervical, and was less in the lower thoracic and lumbar regions. There was diffuse degeneration of the anterior pyramidal tracts in the upper thoracic and lower cervical cord. The cells of the spinal ganglion showed degeneration and simple atrophy. The peripheral nerves were slightly degenerated, which von Bechterew believed was due to the degenerated roots. There was some fatty change of the atrophied muscles and disappearance of the striations.

In Leri's case the spinal cord was absolutely normal, except for a slight diminution in the number of the cells of the anterior horns. Leri did not believe that in all cases there is an organic lesion of the nervous system. In one of Reuter's cases the spinal cord was examined, but showed no pathologic change.

In Chiari's case (quoted by Reuter) there was a pachymeningitis in the cervical region. The medulla oblongata showed a certain amount of ascending degeneration. In one of Fraenkel's cases the spinal cord and spinal ganglia were examined, but they appeared to be normal. The muscular bundles were atrophied, and the muscle parenchyma was replaced by fatty tissue, and there was hypertrophy of the perimysium.

The cases of von Bechterew, Chiari and my own were the only instances showing changes in the nervous system, though in Leri's case the cells of the anterior horns were diminished in number. There is, therefore, very little evidence pointing to the nervous origin of these cases. The lesion in my case was slight and could, I believe, be due to pressure from the rigid bony canal, possibly by reason of the narrowed foramen, while the peripheral changes could result from the degeneration of the roots thus occasioned.

The lesions of the nervous system in the cases of Chiari and my own were so slight as hardly to suggest that the bone symptoms were an expression of this lesion. On the contrary, it would appear that the lesions of the nervous system were caused by the bone disease. The nervous symptoms and lesions are not prominent in these cases, and more likely of a secondary nature. A nervous disturbance which would call forth such marked and localized bone changes would be expressed in other marked nervous symptoms. It is improbable that the trophic bony changes would stand out so prominently to the exclusion of other symptoms. I believe, with Leri, that certainly not all these cases have a nervous origin.

The relationship of arthritis deformans to these cases is, I believe, remote. The difference is striking, if the results of the autopsy of the case reported by Piogey[25] are contrasted with the pathologic changes which have been described above. In Piogey's case of multiple articular deformity and general ankylosis the characteristic lesions of chronic arthritis deformans were described. The articulating processes had completely disappeared in places and the surfaces were connected by osteophites and lamellæ. A similar lesion was found in the articulations of the vertebræ. While the metacarpal and scapulohumeral articulations were not ankylosed, there were changes in the cartilages, which were eroded. The recent conclusions of Rimann[26] are interesting in this connection. As a result of a pathologic study of arthritis deformans he claimed that:

1. Macroscopically there was hypertrophy and atrophic change, the former being characterized by proliferative changes in the joints and synovia, and the latter by complete failure of these. Regressive changes in the bones and cartilages were common to both.

2. This change is frequently associated with fibrous metaplasia of the medullary tissues of the bones and cartilages.

3. Metaplastic changes in the atrophic form are more frequent and more extensive and result from a local reaction of the pathologic irritant: the expressions of a general disease of the organism.

4. There are transitional changes between arthritis deformans hypertrophica and atrophica.

The changes in the synovial membranes and the production of osteophites or exostoses, do not appear in the description of the anatomic specimens of the cases under discussion. Ehrhardt calls attention to the fact that the ossification causes changes in the shape of the joints which are dissimilar to those found in arthritis deformans, and Simmonds, Elliott and Siben hold that arthritis deformans of the spine is a different process entirely.

On the other hand, Senator,[27] Saenger,[28] and Auerbach[29] believed that the disease described by Strümpell is an expression of arthritis deformans, and Schlesinger and Oppenheim do not recognize any difference between arthritis deformans and the other forms of stiffening of the spinal column.

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[25] Bull. Soc. anat. de Paris, 1898, p. 296.

[26] Arb. a. d. path. Inst. zu Berlin, 1906, p. 139.

[27] Berl. klin. Wchnschr., 1899, No. 47, p. 1025.

[28] München. med. Wchnschr., 1899, No. 47, p. 1509.

R. Llewellyn Jones[30] believed that no distinction can be made between cases of so-called "poker-back" and the polyarthritic type of arthritis deformans.

While everyone who has seen many cases of arthritis deformans recognizes that the spinal column may also become involved, the whole clinical picture, outside of the pathologic appearance, seems to be entirely different from that presented by cases of ankylosing rigidity of the spinal column.

A CONSIDERATION OF THE COMPENSATORY DIARRHEAS.*

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The literature concerning compensatory diarrhea or, as it has been more often called, vicarious diarrhea, is, contrary to expectation, extremely meager. Reports and experiments pertaining to this subject, published during the last twenty years, with few exceptions deal with but one form of compensatory diarrhea, namely the diarrheal symptom of uremia, and have added very little to our understanding of the phenomenon. Likewise, not one of a goodly number of experienced clinicians with whom I conferred on the question of compensatory diarrhea, knew a particle more than the text-book fact of the possible assumption of vicarious work by the bowels in uremia.

Compensatory diarrhea, however, may supervene in manifold conditions and at various stages of a progressive affection. In exceptional instances only will compensatory diarrhea be encountered as a terminal symptom. It is always symptomatic of arrest or perversion of the function of the skin, lungs, kidneys or the organs of internal secretion. Its immediate effect tends to systemic correction or compensation in the majority of instances and is, therefore, of a salutary nature.

As a matter of fact, most functional diarrheas have a cc[illegible]. so far as the bowels themselves are [illegible] do not call forth a general compensatory effect. Such diarrheas may diminish the intra-abdominal tension and relieve certain phenomena in a mechanical way, or they may prevent further absorption of toxic material of ectogenous or enteric origin. However, it is no vicarious function which the intestines perform by the agency of such diarrheas, and, whether we characterize them as nervous, morning, refrigatory, summer, winter, etc. diarrheas, they are nothing more than the unloading of more or less fluid intestinal contents of non-catabolic production.

Before entering on a consideration of the types of compensatory diarrhea it is necessary that the precise meaning of the term compensatory diarrhea be understood. I would define it as a phenomenon of varying degree and duration, apt to ensue and to return with more or less frequency in the course of systemic deterioration, and characterized by the diarrheal discharge of incompletely or perversely catabolized substances, or by that of catabolic products normally excreted by other emunctories.

This definition excludes, therefore, all the diarrheal eliminations of food residues and the elements elaborated from the ingesta which have not been absorbed, and includes the diarrheal excretion of normal and abnormal products of retrograde tissue metamorphosis. The evacuations in compensatory diarrhea, of course, consist, in addition to the catabolic material, of the accidental contents of the bowels. While by its nature a compensatory diarrhea is primarily always a functional occurrence, the catabolic substances excreted by it may give rise to intestinal lesions which in turn may prolong or intensify the diarrhea, or may occasion more or less severe attacks of watery evacuations of noncompensatory character. Thus, we frequently encounter in the intestines an apparent anatomic substratum of a compensatory diarrhea which, however, is but the immediate result of the perverse elimination of a number of excrementitious substances, and therefore not the cause but the consequence of the assumption of intestinal compensatory activity.

I recognize three general types of compensatory diarrheas, viz:

First, diarrheas which are concomitant with deficient or perverse catabolic processes.

Second, diarrheas which are the consequence of functional or structural disease of certain excretory organs.

Third, diarrheas occurring during the period of physiologic systemic decline.

The first category comprises the diarrheal phenomena which may accompany or are expressive of histolytic and histoenzymic autotoxicoses. To this belong, among others, the specific diarrheas of gout, exophthalmic goiter, Addison's disease and diabetes.

In gouty individuals, especially in those disposed to obesity, there exists as a rule a proclivity to constipation. In the so-called retrocedent and the irregular forms of the affection the paroxysms are often preceded by more or less fecal retention. Now, it is not uncommon that such a paroxysm be aborted, or that even serious interval complications be prevented, if rapid elimination of the offending material takes place by a succession of free bowel discharges. There is no doubt that the permeability of the kidneys is often interfered with in the chronic gouty state—be it on account of a cirrhotic condition of the renal structures or the clogging of the uriniferous tubules with deposits of urates or alloxur bases—and that the eliminative efforts on the part of the system may evince themselves by enforced intestinal activity. Although the urine contains at such times the usual or even an increased amount of alloxur bases, these, nevertheless, occur in the diarrheal feces in appreciably larger than normal quantities.

Since the nucleins, the mother substances of the alloxur bases, when exhibited in the fecal matters are to the greater part body-nucleins, as has been shown by Weintraud,[1] the connection between the abortive diarrhea and the suppressed gouty manifestations is fairly well established.[2]

Clinically, the compensatory activity of the bowels is usually demonstrable in these instances by the great pains and the tenesmus due to the chocolate-colored fecal masses laden with nuclein substances, concurring with a diminished amount of urine and a marked decline of vesical irritation and tenesmus.

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[29] München. med. Wchnschr., 1900, No. 24, p. 750.

[30] Edinburgh Med. Jour., 1906, No. 61, p. 103.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] This author (Verhandlungen d. XIV Congr. f. inn. Medicin, Wiesbaden, 1896), obtained from 100 grams dried meconium, in addition to alloxur bases, from 0.3 to 1.0 gram uric acid. He also points out that alloxur bodies may be demonstrated in the feces after a nuclein-free diet (milk regimen).

[2] Hayem found in the villi extensive uratic deposits.

The peculiar diarrheal attacks of exophthalmic goiter, like the profuse sweatings, must be regarded in the light of efforts at compensation. Furthermore, the excessive secretory activity of the sweat glands and the increased intestinal function, seem not only to compensate for one and the same systemic deficiency, but also to exercise the specific compensatory work alternately during certain stages of the affection. In acute cases of exophthalmic goiter, for instance, the sweatings are particularly apt to be frequent and exuberant while the diarrheal seizures are rather uncommon and of a mild character. In other cases of the malady, periods of sweating alternate with periods of diarrhea, and it is seldom when protracted sweatings occur for a number of times in a day, that a diarrheal attack supervenes.

The compensatory diarrhea of exophthalmic goiter sets in and terminates abruptly, and as a rule is not accompanied by pain. The attack generally lasts from one to three days and there are normally not any more free alvine discharges on each day then there are individual sweating seizures on the diarrhea-free days. The evacuations are softer and decidedly lighter-colored then in gout. If the diarrheal period lasts for five consecutive days or longer structural changes in the intestines will be encountered in the majority of instances. Especially will this be the case when there occur diurnally as many as twelve or more movements. Such pathologic changes are not the cause but the consequence of the compensatory attempt—they are complications keeping up the diarrhea beyond the compensatory needs which means that the patient has entered a stage of active decline. The diarrhea when confined within compensatory limits is nearly always followed by a temporary general improvement.

In Addison's disease two distinct forms of diarrhea may occur; the one form ensuing toward the end of the affection, colliquative in character and accompanied by severe colicky pains and often by melena, may quickly lead to either collapse, or delirium, coma and convulsions. It is entirely dependent on typical anatomic changes in the intestinal solitary follicles and Peyer's patches.

The other form, which is exhibited in but a small proportion of cases, supervenes in the earlier stages of the malady, and appears to be of a compensatory nature. In two exceedingly mild cases of the affection of which the one was under my observation for almost three years, the other for more than five years, there prevailed a moderate diarrhea of mushy consistency at frequent intervals. These diarrheas were usually followed by periods of systemic improvement, viz. greater energy and muscular resistance, diminished languor and increased appetite. Both the patients drew my attention to their almost unfailing general improvement after these diarrheal attacks. In the one patient there occurred partial reduction of pigmentation and the affection assumed a latent character; the other patient, apparently none the worse for the Addison's disease, succumbed to an intercurrent acute infectious disease.

Diarrhea is a frequent phenomenon in diabetes. Its relation to the latter may be twofold—it may be a symptom of the pathologic state underlying the diabetes, or it may be a result or complication of this. Diarrhea as a symptom of the diabetic substratum does not interest us in this consideration for it reflects only a more or less disturbed intestinal digestion. Diarrhea as a complication of diabetes may be due to a long-continued proteid-fat regimen in which case it is but an expression of an alimentary insufficiency, or it may be called forth by the rapid transmission of certain catabolic substances into the intestinal canal in which instance it may compensate for perverse plasmolytic or lipolytic processes. Be this as it may, there are a few indisputable facts in this connection, namely that a compensatory diabetic diarrhea takes its origin in the small intestines, that by its agency sugar may be excreted, and that during its presence and for some time afterward the intensity of the glycosuria becomes markedly diminished or the urine may even be rendered entirely free from sugar.[3]

It is, of course, impossible to explain how and why sugar has found its way into the intestinal tract of an individual just at the period when he is pursuing a rigid carbohydrate-free regimen. For granted that the proteid-fat diet is the cause of the diarrhea (as maintained by some observers), where are the sugar-forming elements coming from, and why is there a synchronous reduction or suspension of the glycosuria?

The occurrence of sugar in the feces, I dare say, should always be considered as of pathologic significance. On no occasion have I detected sugar in the feces of diabetics whose bowels functionated normally —I have never found it in other than diarrheal discharges.

The diarrheal stools in diabetes, however, do not always exhibit sugar, and I do not wish to be understood that the compensatory diarrheas in diabetes are characterized by their contents of sugar. Far from it, for I accept as efforts at compensation in the diabetic state all the diarrheas concurring with a reduction or suspension of the glycosuria, and which are being followed by marked, if but temporary systemic improvement including the dispersion of neuritic and endarteritic pains.

While it is true that diabetic coma is generally ushered in by an acute gastrointestinal disturbance, it is equally true that it may be averted by a diarrhea exerting compensatory function. There would be many more instances of diabetic coma, and it would often ensue much earlier in the course of diabetes, if a diarrhea rendering ineffectual the accumulated toxins did not supervene at the proper time. Of what nature these toxins are, we do not know. However, they do not belong to the acetone group, and the small amount of sugar which may be encountered in the diarrheal evacuations is not of toxic but of mere symptomatic significance. I have observed on more than one occasion that an attack of spontaneous diarrhea setting in during precomatose jactitation has prevented the further development of the coma.

Diarrhea occurring simultaneously with glycosuric augmentation and exacerbation of other diabetic phenomena—conditions not infrequently called forth by lesions in the descending and sigmoidal portions of the colon—of course exhibit no systemic compensatory qualities.

Of the second type of compensatory intestinal activity I will but mention the diarrheas following extensive burns of the skin and those concomitant with impaired or suppressed renal function.

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[3] I have repeatedly observed in diabetics that the urines rendered sugar-free by an attack of diarrhea are apt to exhibit a distinct reaction for acetone and diacetic acid which, soon after cessation of the diarrhea, can no longer be obtained.

Injury of a considerable area of the cutaneous surface by burns or scalds always gives rise to autotoxic manifestations. There may be retention of urine and various nervous phenomena as delirium, coma or a maniacal condition. The respiratory gas interchanges by the medium of the skin, compared with those taking place in the lungs, it is true, are diminutive, but a portion of such catabolic products as urea, uric acid, fatty acids, leucin, tyrosin, etc. leaves the organism by way of the integument. This is not the place to discuss whether or not extremely poisonous substances like hydrocyanic acid are generated in grave cases of burning, but it must not be forgotten that tegumentary activity includes also absorption of atmospheric oxygen, and that factors affecting the eliminative qualities of the skin also affect its absorptive properties.

In my book on the autotoxicoses,[4] from which some of the foregoing is quoted, I stated that when the cutaneous structures fail to exhale and discharge effete substances normally eliminated by them, the insufficiency may be overcome by inducing the other emunctories to vicarious activity, and that anything which in the face of diminished tegumentary function stimulates the general excretory work of the organism tends to prevent or to suppress autotoxic manifestations.

Now, inasmuch as renal activity is seriously interfered with in grave cases of burning of the skin, the diarrheas which then invariably supervene have to be looked on as compensatory in character. In many instances, the diarrheal compensation is effective either in averting autotoxic phenomena or, when these are already present, in holding them in check. This fact was brought home to me about eighteen years ago when I treated a two year old child who was terribly scalded over the entire abdomen. When I was summoned the little patient was unconscious, pulseless and the respirations were hardly noticeable. The rectal temperature was 103.5 F., and the bladder contained but a few cubic centimeters of urine. While preparing a hypodermic injection to stimulate cardiorespiratory activity there occurred a copious watery discharge from the bowels. This was soon followed by a second and a third evacuation and (the hypodermic medication having been applied meantime) by an improvement of pulse and respiration. Diarrheal discharges prevailed for the next three or four days after which the diurnal urine was excreted in nearly normal amounts. Every third or fourth day thereafter for a period of about two months there occurred watery evacuations of the bowels and synchronous diminution of the urine. With the proper care, the apparently moribund child fully recovered after some months.

In grave cases of burning there supervenes occasionally a colliquative diarrhea at the foundation of which stands an ulcerative process in some part of the intestines. Such pathologic evacuations, which still further exhaust the already enfeebled organism, of course, have nothing in common with compensatory diarrheas.

Uremic diarrhea, as previously remarked, is the best known of all compensatory diarrheas. It is probably not so frequent an occurrence as are other phenomena of uremic causation, uremic vomiting for instance, nor does it seem to ensue any oftener than some of the compensatory intestinal evacuations of other systemic affections.

Uremic stools do not always present the same general characters; they may have a foul odor in which occasionally the scent of ammonium carbonate is recognizable, while at other times they are inodorous. The more repulsive the odor, the scantier, as a rule, is their amount, and the more frequent the evacuations the less dense is their consistency. They may be mushy, slimy or watery. When small in quantity the feces may be soft while the water together with which they are discharged from the bowels, appears to contain comparatively few fecal particles. The evacuations may exhibit light or dark coloration, not infrequently free mucus and but very rarely some blood.

Specific uremic diarrheas occur much more frequently in chronic than in acute states of uremia, and do not stand in any relationship to ulcerative processes in the intestines. Uremic ulcers of the bowels may occasion grave intestinal phenomena, which are, however, quite different from those of compensatory uremic diarrhea. The evacuations which are due to ulcerative intestinal states are often dysentery-like, very fetid and contain mostly blood and tissue shreds. There is sufficient pathologic evidence that compensatory uremic diarrheas, if continuing for protracted periods, may be accompanied by pronounced congestion and catarrhal exudation of the intestinal mucosa, but that they concur with ulcerative processes in the rarest of instances only. The cardinal etiologic difference between the two forms of uremic diarrhea is, that in the one the ulcerative process is the forerunner of the diarrheal condition[5] and that in the other the diarrhea stands either at the bottom of the morphologic changes of the intestinal mucous membrane, or that it is of synchronous or almost synchronous production with the latter, and the result of the self-same causes.

Compensatory uremic diarrhea is probably due to overstimulation of the intestinal nerves by the hyperosmotic blood carrying the products of normal and probably also of perverted catabolism. Whether this irritation is caused by the altered blood *in toto*, or by the transudation *per se* of one or more of its constituents, we have no means of ascertaining. We know with certainty, however, that the decomposition products of urea give rise to a local irritation of the intestinal mucosa which may be followed by increased peristalsis and diarrhea. The mucosal congestion is probably of simultaneous production with the diarrheal symptom in most instances; this, at least, is the case after infusions of urea and other urinary constituents into the circulation in dogs. It is possible that the hyperosmotic state of the blood causes irritation of the cerebral cortex and that this irritation, transmitted to the intestinal nerves, occasions excessive peristaltic activity. Again, according to Landois,[6] augmented peristalsis may be the result of a strong irritation of the vasomotors by which the blood in the intestines is temporarily diminished.

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[4] "The Autotoxicoses, Their Theory, Pathology and Treatment," by Heinrich Stern, Chicago: G. P. Engelhard & Co., 1906, pp. 64, 148 and 149.

[5] Fischer (Virchow's Arch. cxxxiv, 134) and Grawitz (Deutsche med. Wchnschr., 1898 No. 20) maintain that uremic ulcers of the intestines are the result of the irritating action of the urinary decomposition products on the mucosa. This may be the case in exceptional instances, ordinarily, however, the amount of ammonium carbonate produced during a given period and remaining in intimate contact with the intestinal mucosa, is too small to produce necrobiotic processes. Be this as it may, the ulceration must precede the discharge by the feces of the material resulting from molecular death. It may be possible that ulcerative conditions develop in the course of a compensatory diarrhea, it is more plausible, however, that in certain instances of uremia the given factors favor the production of intestinal ulcers, and that an ulcerative process antedates the colliquative diarrhea.

[6] Die Uraemie, 1891, p. 130.

Experiments pertaining to uremic diarrhea, conducted by Hirschler[7] have shown that among the urinary constituents which may call forth peristalsis, ammonium carbonate and creatin are not only very energetic peripheral but at the same time also central intestinal irritants, while urea, sodium chlorid and creatinin cause intestinal activity solely by means of peripheral stimulation. He further demonstrated that urea and ammonium carbonate may be looked on as etiologic factors of the uremic diarrhea.

That the uremic diarrhea arising in the absence of ulcerative changes is truly compensatory in character there can be little doubt. Uremic vomiting fulfils a similar compensatory mission which is plainly perceptible in certain advanced cases of chronic uremia when the ejected masses exhibit an urinous odor. This odor is due to ammonium carbonate and trimethylamin. Even the burning and dryness of the mouth and trachea of uremic patients Senator[8] ascribes to these irritating decomposition products of the nitrogenous urinary constituents.

The diarrheas with compensatory tendency occurring during the period of physiologic systemic decline form the third category of my classification. Strictly speaking, these diarrheas which comprise the diarrheal occurrences of normal old age, do not form a distinct group for themselves, but belong in part to the first, in part to the second category. Inasmuch, however, as it is not one specific function or organ but the more or less uniform decline of the entire physiologic activity and of the body structures in general which stands at the foundation of the compensatory diarrhea, we are well justified in considering the diarrheas of the aged in a class for themselves.

Old people are particularly prone to diarrheas, which are seemingly not dependent on atmospheric, alimentary, temperamental, occupational and localized enteric causes. These diarrheas become more frequent and pronounced the more the individual advances in age. In a certain proportion of instances free intestinal discharges have to be ascribed to structural and functional deterioration of the entire alimentary tract—these do not therefore concern us at this time—in other instances they are clearly of a compensatory nature, and this is a fact which has not received general recognition.

Women are oftener subject to the diarrheas of old age than men. The cessation of the menses seems to favor a disposition for diarrhea. There are many women who have never been affected with chronic diarrhea before the menopause. While most clinicians declare this diarrhea to be of the "nervous" type, I am forced to contend that a "nervous diarrhea" does not explain anything, and that there must be a retrogressive process at the bottom of these frequent watery evacuations, so long as the digestive and assimilative functions are performed in a normal manner and so long as there is no evidence of a structural alteration in the intestinal canal. What lies nearer then, than to assume that following the cessation of the catamenia there will ensue a hyperosmotic state of the blood and tissue fluids and that transudation therefrom will occur through those membranes which offer the most extended surface and least resistance, and these are the intestinal tissues.

It appears that the intestinal membranes retain a physiologic efficiency for a longer period than most other body structures. This, at least, is the case with their permeability which remains undisturbed, as a rule, long after the other emunctories have lost a great part of their own. It stands to reason therefore, that the intestinal tract of the aged has to perform more or less compensatory service all the time. Thévenon,[9] more than forty years ago, maintained that in health, when the general equilibrium is preserved, the products of the intestinal secretions are always more plentiful in the old than in the adult, that the internal tegument which is less exposed to continual external forces than the skin is physiologically less deteriorated than this, and that it is the tegument of the alimentary tract which compensates for the inactivity of the skin by removing a certain quantity of liquid from the economy.

Although modern research has demonstrated that the external integument is not to any greater extent affected by ectogenous causes than the alimentary tegument, and although the intestines are not internal organs in the sense that they are intrabiontic, Thévenon's observations, which were mostly made at the Salpêtrière, are in the main correct, and may be corroborated by any physician whose practice brings him in contact with old people, especially with the inmates of homes for the aged.

Since there exists a functional connection between the external and internal tegument, it is not surprising that old people, who perspire rarely, are subject to chronic diarrheas. Again, pulmonary exhalation is greatly diminished in old age but the general systemic equilibrium is maintained by the compensatory action of the bowels.

The intestinal canal is beyond doubt the most efficient regulator of the shortcomings and disturbances constantly present or arising in the economy of the old. The compensatory action of the bowels tends to maintain the osmotic equilibrium, that is the interrelation of the physical conditions of the various body fluids, which is essential for the normal performance of the vital processes. This interrelation does not consist in the equality, but in the physiologic dissimilarity of the osmotic conditions in the different fluids of the organism, and it is often only by the increased function of the intestinal membranes that the osmotic equilibrium is preserved and the life of the individual prolonged.

The occurrence of an attack of compensatory diarrhea is nearly always a positive indication that there is no immediate danger for the life of the patient, and that terminal states like fatal dyspnea, convulsions and coma have been averted for the time being. Compensatory diarrhea is mostly a chronic condition, that is, whereever an attack has once ensued it is always apt to return. It is the frequent succession of the individual attacks which puts the stamp of chronicity on the compensatory diarrheas. The frequency of these attacks is rather a favorable omen, and the early establishment of compensatory diarrhea in the presence of perverted catabolism and insufficient excretion through the normal channels, let the prognosis of the case appear less gloomy. The elimination of all or nearly all the excrementitious substances by the intestines is liable to cause irritation and congestion of the mucosa—minor local disturbances which count little if the immediate salutary effect on the entire system be considered.

Of the compensatory diarrheas, not those supervening at a certain period and averting a fatal issue, but those recurring at frequent intervals and constituting a *habitus diarrhocicus* and permitting the patient to live in comparative ease, are really the more important. However, while the former are known to the clinician the true nature of the latter is but rarely recognized at the proper time, and a treatment of suppression is instituted in nearly every instance. This interference, of course, is unjustified and irrational as a general rule and may speedily call forth a lethal termination of the case. Naturally, the prognostic outlook of instances thus treated is bad. Here is an example of such a case.

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[7] Jubilar-Arbeiten der Schüler Korányi's, Pester Med.-Chir. Presse, 1891, No. 30.

[8] Die Erkrankungen der Nieren, 1902.

[9] De la Diarrhée chez les Vieillards, Thèse de Paris, 1865.

History.—On March 13, 1908, I saw in consultation Mrs. Susan S., aged 47, the mother of three children. The patient had been affected for some years with chronic parenchymatous nephritis, cardiac insufficiency and renal asthma. For the last two or three weeks she had had frequent watery discharges from the bowels, causing her physicians a good deal of anxiety, and concurrent marked diminution of the urinary flow, a fact in which, strangely, they seem not to have been interested. The output of urine for the past forty-two hours amounted to 180 c.c. The patient had received preparations of bismuth, tannin and opium for the diarrheal phenomenon.

Examination.—When I first examined her she was in a precarious condition: delirious, extremely weak, but mentally agitated, very dyspneic, edematous, pulse 124, arterial pressure 70 mg. Hg (Potain).

Treatment and Result.—I recommended discontinuance of all medication and the administration of high rectal saline injection, 1,500 c.c. every three hours. The few drugs which were given to the patient on the following days were mild diuretics. Nothing whatsoever was prescribed for the intestines but the carbohydrate ingesta were considerably reduced. The patient was kept in bed for about one week. The watery evacuations declined in the ratio in which the amount of the urine increased. The moment the kidneys eliminated a normal amount of urine with a fair degree of density the diarrheal discharges ceased on their own account. The patient has had a number of mild diarrheal attacks since for which the same treatment was given. It proved successful on every occasion. At this writing the patient is enjoying comparative freedom from the chronic uremic symptoms at Atlantic City.

Compensatory diarrheas of the type occurring in Graves' disease permit of a fair prognosis, so far as the life of the patient is concerned. Their periodical occurrence may be ushered in by an attack of indigestion, but the benign character of the diarrhea soon evinces itself by the temporary diminution or abatement of a number of distressing phenomena. In my experience, colliquative diarrheas are the exception in exophthalmic goiter, and anatomic changes of a pronounced degree, as large desquamative areas, submucous hemorrhages and ulcerative processes, so frequent in athyroidism and thyroidectomized animals, are very rare in this affection.

This general prognostic axiom concerning the compensatory diarrheas may be put forth. So long as a diarrheal process continues to compensate efficiently for loss of function of the skin, lungs, kidneys and the organs of internal secretion, or, in other words, so long as most of the effete and injurious material is removed from the organism by the medium of the bowels, the patient is in a satisfactory osmotic equilibrium and there is little immediate danger so far as life itself is concerned. On the other hand, the pathologic or artificial suppression of the diarrheal discharges may give occasion to grave symptoms and even cause death, in case the functionally deficient organs have not regained their activity meanwhile.

A true compensatory diarrhea should not be interfered with unless there is sufficient evidence that the localized intestinal irritation and hyperemia unduly prolong the increased peristalsis. Local intestinal treatment should be applied in preference to the ingestion of medicines which have to traverse from ten to twenty-five feet of gut before they reach the seat of the lesion. Rest in bed, application of heat to the abdomen, high rectal or colonic flushings with normal salt solution, and reduction of readily fermentable ingesta is all that is needed in ordinary cases of intestinal hyperirritation and congestion.

Inasmuch as a compensatory diarrhea is symptomatic of the insufficiency of excretory function in general, it indicates the points toward which treatment should be directed. Such treatment should tend to the stimulation of the catabolic processes and the regeneration of the eliminative qualities of the skin, lungs and kidneys.

DISCUSSION.

DR. GEORGE N. JACK, Buffalo: I have happened on a few physiologic respiratory laws not in accord with authoritatively established opinions. 1. Lung tissue has a glandular structure, and performs a glandular function, serving the mortar-like purpose of holding the air tubes, blood vessels and lymphatics in close or functionating approximation. The lungs actually constitute two large irregular lymphangio-pneumatic glands. 2. The elasticity of the lungs is not so pronounced as it has been believed to be, neither does it constitute the expiratory force given it by existing authorities. 3. Lung tissue of itself is a coarse, friable, granular non-elastic tissue of little resistance and easily torn. 4. The only elastic tissue that acts directly on the lung substance is that of the visceral pleura, and the numerous small blood vessels or capillaries that so abundantly ramify through the lung. 5. The lung tissue itself is practically passive during both inspiration and expiration. 6. Owing to the vacuum-like pull between the visceral and parietal pleuræ, the lungs are, as it were, glued to the thoracic walls, from which they can not pull, and they are passively expanded and passively compressed by the action of these walls. 8. The existence of the pulmonary or lung blood pressure in the living subject tends to prevent the lungs from collapsing so readily and completely in the living subject as in the cadaver on admitting atmospheric air between the visceral and parietal pleuræ. 9. The air cells, minus the numerous small blood vessels in their walls, are not elastic, but they are very collapsible. The air cells do not contract to force out the inspired air, but they are made to collapse partially and thus caused to shove the inspired air out.

The normal expiratory partial collapse of the air cells in normal expiration is due to the pressure of the thoracic wall on the air cell, the recoil of the elastic visceral pleura or lung capsule, and capillaries of the air-cell wall, and to the expiratory changes in the pulmonary blood pressure, this blood pressure exerting its influence through the dense capillary network of blood vessels on the walls of the air cells.

Thus a high blood pressure retards the collapsibility of the air cells and favors expiratory dyspnea. The immediate relief from the dyspnea of certain forms of asthma and emphysema following perforation and entrance of air through the thoracic wall is due largely to its anti-blood aspirating effect, and resulting pulmonary blood pressure change.

The apparent elasticity of lung tissue is due to a blood-pressure effect. The absence of blood pressure permits the lungs of the dead to collapse from the atmospheric pressure. The presence of blood pressure in the dense capillary network of blood vessels found on and practically constituting the thin walls of the air cells, is what gives to these cells of blood vessels or air cells an elastic effect in the living functionating lungs.

The general normal inspiratory rise of blood pressure produces an opening effect on the air cell which favors the entrance of air, while the normal expiratory reduction of blood pressure favors a softening of the tubular or vascular air-cell wall and thus favors the expiratory collapse of the blood vessel walled air cell. Lung tissue then performs a glandular function, while the air, air tubes and blood vessels do the respiration.

INVAGINATION OF LIMITED ANNULAR GANGRENE OF THE SMALL BOWEL VERSUS RESECTION.*

JOHN E. SUMMERS, Jr., M.D.
OMAHA.

It is the accepted practice and teaching of surgeons the world over, in cases of gangrenous intestine, to proceed to one of two lines of action: (a) The formation of an artificial anus, and (b) resection. "Whenever possible, i. e., in cases in which the condition of the patient, and the experience and help ready to the surgeon's hand admit of his taking this step, the gangrenous intestine should always be resected" (Jacobson and Rowlands). When the opposite conditions prevail, an artificial anus should be formed with the hope that this will prove a life-saving measure and that at a later operation the continuity of the intestinal canal can be re-established. The increasing experience of late years is tending more and more toward the selection of resection of the gangrenous intestine as against the formation of an artificial anus. This teaching emanates from good authority; it should, however, be accepted with some caution, as it is based on an ability in the selection of cases by men who are also especially skilled in intestinal surgery.

Most of the failures that have fallen to my lot in the management of patients with gangrene of the intestine have followed attempts to carry out the ideal; too much has been done, and this has been my observation of the work of others. It takes good common sense to weigh the pros and cons regarding resection in a given case of gangrene of the intestine. The patient's condition must be fairly good to warrant resection.

The amount of gangrenous intestine a patient can carry and still be in a condition of resistance to admit of a successful resection has never been accurately determined. This amount may vary from one centimeter (3/8 in.) to two meters (6½ ft.) and possibly more, but it is not always the extent of the gangrene that determines the resistance of the patient. A limited gangrene of short duration, accompanied by marked constitutional symptoms, is of graver import than one of an opposite type, i. e., one more extensive in the length of bowel involved, and longer duration of strangulation, but with rather mild constitutional symptoms. A resection in the former case must be made relatively twice as extensive as in the latter, because the mesentery has been invaded by infective products beyond the parts that appear healthy, even if the blood vessels do bleed freely on division.

The object of this paper is to call attention to a simple and safe manner of handling limited annular gangrene of the small intestine without resection, by invagination of the gangrenous bowel. Especially can I commend the procedure in those dangerous cases in which the success of a resection may be in grave doubt and the formation of an artificial anus the only alternative. The technic is applicable to the treatment of traumatisms to the small intestine from contusions and gunshot wounds, the repair of which, because of their peculiarly destructive, bursting character, if accomplished by suture, may so limit the lumen as to result in dangerous stricture or kinking of the bowel.

Case 1.—*History.*—In September, 1900, a young man was brought to the Clarkson Hospital, Omaha, suffering with a right inguinal hernia which had been strangulated for four days.

Operation.—He was in a condition of such marked collapse that I doubted the propriety of any surgical attempt. However the field of operation was prepared, cocain injected (a general anesthetic was out of the question) and the hernial sac opened. It contained a loop of small intestine, a piece of which 4 cm. (1½ in.) long, was gangrenous, and although soft, was not very friable. The lumen of the bowel above and below the gangrenous ring was about the same, due unquestionably to the two days of stercoraceous vomiting which had preceded the patient's entrance into the hospital. As the man's general condition did not warrant a resection it occurred to me to make an intussusceptum of the gangrenous intestine, invaginating by manipulation sufficiently far so as to have sound tissues to suture at the neck of the intussusception, using for the purpose a circular continuous, seromuscular stitch of silk. No attempt was made towards a radical cure of the hernia.

Postoperative History.—The usual restorative measures were employed and the patient's condition gradually improved. His bowels moved at the end of twenty-four hours and he made a good recovery. Six months after the operation I received a letter from him saying that he was in excellent health, but that he still had his hernia.

Case 2.—*History.*—In the autumn of 1907 an elderly man was sent to me by Dr. Hill of Lyons, Neb., suffering with a strangulated, right oblique inguinal hernia. When the man arrived at the Omaha General Hospital the strangulation had been in existence some fifteen hours, but he was in excellent condition.

Operation.—An immediate operation under ether, was done. The bowel was found to be in the same condition as in Case 1, with the exception that the gangrenous ring was not quite so extensive. An intussusception was formed after passing four equidistant sero-muscular, Halstead mattress silk stitches around the circumference of the bowel—i. e., parallel to its long axis. In making these stitches the needle was entered first 1.5 cm. (½ in.) below the gangrenous ring and then at about the same distance above it, and then back again near the point of starting. As the ends of these stitches were pulled on by an assistant, the invagination was aided by grasping the bowel below the stitches, between the index and middle fingers, and pulling upward, while, with the thumb above, pressure was made downward—a method similar to that employed in reducing a paraphymosis. Great gentleness, was, of course, exercised in making this manipulation. After tying the Halstead stitches the line was reinforced by a circular sero-muscular silk stitch. A Ferguson operation for the radical cure of the hernia was then done. The man recovered without complications and has remained well since.

Case 3.—*History.*—In December, 1907, a boy, aged 16, was accidentally shot in the abdomen with a 0.32 caliber pistol and was operated on by me nine hours later in the Omaha General Hospital.

Operation.—There were twelve perforations of the small bowel, all very easy of repair except one which was so destructive (explosive) in character that to suture it would practically have closed the lumen of the bowel. Neither was it possible to trim the edges of the wound so as to form a rhomboid that could be sutured advantageously. It was a resection and nothing less, unless the injured bowel could be treated as in Cases 1 and 2. The latter was done, about 3.5 cm. (1¼ in.) being invaginated. No complications ensued and the boy made a good recovery.

In a similar case it would be more surgical to destroy, by crushing with an angiotribe forceps, the ragged flaps of the wound before making the intussusception, thus assuring a smooth surface within the bowel at the line of suture. If the extent of gangrene involves more than 5 cm. (2 in.) of the intestine, it would certainly be necessary, before making the invagination, to deal with the mesentery by freeing it from the bowel and resecting it or not as the condition indicated.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

There are possibilities of usefulness of the technic described in this paper by extending its employment to the treatment of annular strictures of the intestines, small and large. These strictures can be removed *per vias naturales* after devitalizing the bowel above and below with an angiotribe forceps and invaginating the devitalized diseased structures into the bowel to be passed off as an intussusceptum. There are also other possibilities along the same line, for example, in relation to resections.

There may be mechanical contraindications to the technic offered; (a) when a loop of gangrenous intestine longer than 10 to 12 cm. (4 or 4½ in.) would appear rather difficult to manipulate, or (b) when the bowel is thick and edematous immediately above the gangrene, or very much contracted below it, the difficulties of invagination may be insurmountable. However, the distended bowel above can be reduced by employing Monk's method of using a glass tube to relieve the distention.

I am sure that a dead piece of intestine may be invaginated upward, and if a properly reinforced through-and-through continuous silk suture is employed, making the neck of the intussusception broad and strong, there will be no giving way, but the current in the intestinal tube will pass naturally with the sloughing off of the intussusceptum. Senn's experimental work in this form of invagination carries no contradiction to the above statement.

I make no pretense to being the first surgeon to invaginate a gangrenous loop of bowel when otherwise a resection or the establishment of an artificial anus must have been done. It was original in so far as I, personally, was concerned, and I had been led to believe from the best obtainable sources that the procedure was new. Alas, there is little new under the sun. Professional medical bibliographers and others had failed to find references to the technic, but I discovered in my own library, after this paper was written, that Guinard reported, at the French Congress of Surgery in 1895, a case of gangrene of the small intestine in which he successfully invaginated 9 cm. (3½ in.)—and many practical surgeons may have done similar work.

My own experience with this technic is so limited that I do not feel warranted in saying very much for it, but I am convinced, nevertheless, that I could have applied it with advantage to my patients in many resections for gangrene and other lesions of the intestine which I have done since my first application of the principle in 1900.

DISCUSSION.

DR. ARCHIBALD MACLAREN, St. Paul, Minn.: It seems to me that Dr. Summers' suggestion is excellent and that it opens a field of great usefulness, especially the suggestion of the use of the angiotribe. Dr. Lund says that in Boston they have pursued this course in a number of instances, but never published the work.

DR. L. L. MCARTHUR, Chicago: Dr. Summers' paper describes an extension of a method which both Dr. Bevan and myself have been utilizing in cases of gangrene of the bowel when small in extent and involving only a section of about one-third of the circumference of the bowel, as may be found in the gangrene which accompanies Littré's hernia, simply invaginating that segment of the bowel. Dr. Summers has shown that it is possible to go further and introduce into the bowel a gangrenous mass 4 to 8 c.c. in length, but smaller than an intussusception, and get good results by the sloughing off of the mass. I believe that he has added to our armamentarium very decidedly.

RECENT STUDIES ON THE CIRCULATION AND THEIR IMPORTANCE TO THE PRACTICE OF MEDICINE.*

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The contributions to our study of the circulation during the past few years have been so numerous that I shall be able to deal only with a few of those aspects in which I have been most directly interested and which I feel are of practical importance; namely, the relation of arrhythmias and of the velocity coefficient to treatment and the studies on the volume and tonicity of the ventricles.

One of the most interesting and important results of physiologic study has been the physiologic analysis of the irregular pulses, which has led us to divide them into four groups:[1]

THE FOUR GROUPS OF IRREGULAR PULSES.

First, those which, either associated with certain phases of respiration or with meningitis, or in children, neurasthenics or convalescents from febrile diseases, are of neurogenic origin. (Fig. 1.) These are not associated with any cardiac disturbance, disappear temporarily under atropin, sometimes permanently disappear under general "tonic" treatment, hygienic measures and the administration of strychnin.

The second group, due to diminished contractility, is shown in the pulsus alternans in which, though the rate is regular, each alternate beat is small. This is most common in very rapid pulses, and as Mackenzie has shown, also in some cases of angina pectoris. It always shows that the heart is beating too fast and that its strength is insufficient, and hence if the condition continues more than a few hours it may be considered as a symptomatic indication for digitalis or strophanthin intravenously.

Thirdly, we have to deal with the three varieties of heart block (Fig. 2) at the various sites along that inverted Y-shaped path of Purkinje fibers—the sino-auricular blocks, the auriculo-ventricular blocks, and the blocks between the ventricles. Of the latter we know but little, and Doctor Hewlett[2] has told what we do know. The sino-auricular block (Fig. 2, 1) as we know it, especially in the cases described by Dr. Hewlett and myself, is always functional, and since it is often brought on by digitalis it need not be added that in this digitalis is absolutely contraindicated. The same applies in the auriculo-ventricular blocks (Fig. 2, 2 and 3), whether organic as in Adams-Stokes disease, or due to myocardial weakness and vagal stimulation as in the post-influenzal or post-diphtheric conditions or due to pressure of tumors on the vagus, as in one case which I recently examined.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] For a more complete discussion of the cardiac arrhythmias consult:

Wenckebach, K. F.: Die Arhythmie als Ausdruck bestimmter Functionstörungen des Herzens, Leipzig, 1903.

Mackenzie, James: The Study of the Pulse and Movements of the Heart, London, 1903; New Methods of Studying Affections of the Heart, Brit. Med. Jour., 1905, i, 519, 587, 702, 759, 812.

Hirschfelder, A. D.: Graphic Methods in the Study of Cardiac Diseases, Am. Jour. Med. Sc., 1906, cxxxii, 878.

Dock, G: Recent Advances in the Study of Heart Disease, Wisconsin Med. Jour., August, 1907.

Hewlett, A. W.: The Common Cardiac Arrhythmias and their Clinical Significance, Internat. Clin., 1907, series 17, iv, 47.

[2] Hewlett, A. W.: Clinical Observations on Absolutely Irregular Hearts, paper presented at this session of the Section on Practice of Medicine.

Fourthly, we have the group of irregularities due to the abnormal impulses, extrasystoles, which may arise either in the auricles, the ventricles, or the bundle of His (Fig. 3). The latter group is diagnosed, I may add without absolute proof having been advanced, when the conduction time is shorter than normal. Ventricular extrasystoles are often brought about by inability of the heart to empty itself. Regularity is then restored by digitalis. At other times there is too great irritability, and in this case digitalis would only serve to increase the arrhythmia. Auricular extrasystoles may be a result of disturbed origination of impulses, or of obstruction to the emptying of a vigorous auricle, as in mitral stenosis; as a rule they do not disappear under digitalis or atropin. but sometimes a certain amount of benefit may result from a simultaneous increase in the tone of the heart muscle.

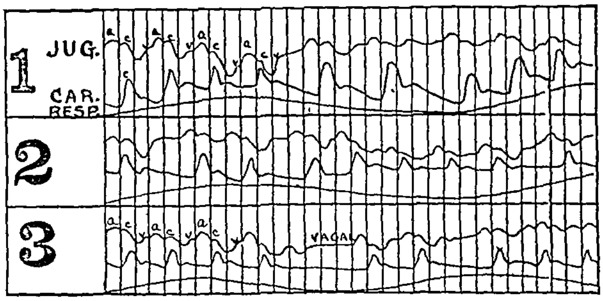

Fig. 1.—Diagrammatic. Showing the neurogenic forms of irregularity. 1. The exaggerated normal type. 2. The pulsus paradoxus. 3. Mackenzie's youthful type. Upper line, pulse in jugular vein. a = wave due to auricular systole; c = wave at the beginning of ventricular systole; v = wave at end of ventricular systole. Divisions represent 1/5 second.

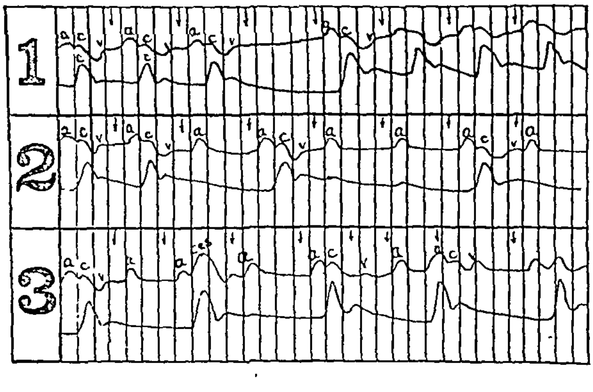

Fig. 2.—Partial and complete heart blocks. 1, sino-auricular; 2, partial auriculo ventricular; 3, complete auriculo ventricular block. Arrows indicated probable impulses arising at the sinus. Upper line, venous pulse in jugular vein. Lower line, carotid pulse.

PAROXYSMAL TACHYCARDIA.

In paroxysmal tachycardia we also have to deal with peculiar sudden changes in rate, almost doubling and almost halving, sometimes associated with irregularity in the transitional stages but usually perfectly regular. The doubling and halving is sometimes due to the passing on and off of an auriculo-ventricular block; in one of my cases it appeared to be a sino-auricular block. I have also been able to produce it experimentally by faradizing the auricles into a state of fibrillation (Fig. 4). Under these conditions the ventricles would suddenly pass into a paroxysm of rapid rhythms, sometimes regular, sometimes slightly irregular.[3] The rhythm was then just less than double the original rate, but would rise suddenly from 120 to 213 a minute or thereabouts and drop at once to the regular rate either on vagus stimulation just as a paroxysm of tachycardia may stop; or the rapid rhythm might be resumed after the vagus stimulation had ceased and later fall spontaneously. As irritability increases, as by successive stimulation, the ease with which these paroxysms are brought on increases, as does also their duration. But even granting that this phenomenon resembles paroxysmal tachycardia, the treatment remains to be worked out further. For in that disease digitalis, strophanthus, intravenous strophanthin, strychnin, atropin, ice-bags, pressure on the vagus, and all the well-known cardiac stimulants have been known to fail, though sometimes useful.

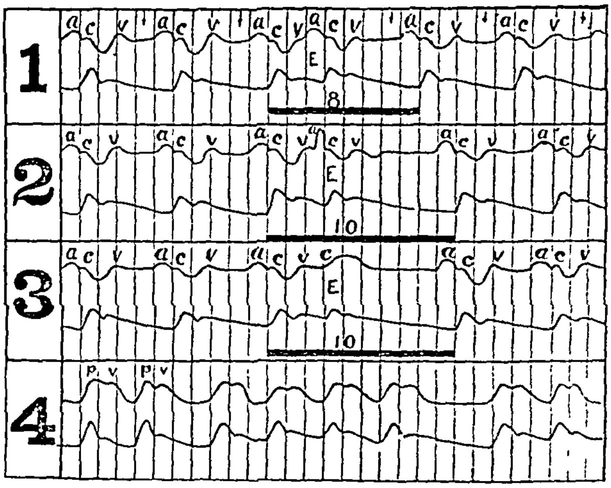

Fig. 3.—Extrasystoles, and auricular paralysis. Underlined portion indicates duration of systole + extrasystole + pause. 1, auricular extrasystole; 2, auriculoventricular extrasystole; 3, ventricular extrasystole; 4, auricular paralysis.

VELOCITY OF BLOOD FLOW.

I shall now discuss the velocity of blood flow in disease. In 1904 Erlanger and Hooker[4] demonstrated that the velocity of flow per unit of time is more or less proportional to the product of pulse pressure by pulse rate. By pulse pressure is meant the variation in pressure due to the pulse beat, and hence the difference between maximal and minimal pressure. This product has no absolute value, but has a relative value as a standard for comparison in the same individual. Erlanger and Hooker found it of importance in determining the relation of blood flow to cyclic albuminuria but made no observations on patients. In 1905, I followed the blood pressure in a number of heart cases over a considerable period of time, and found that in them the general condition seemed to improve when the velocity of flow (as shown by product of pulse pressure by pulse rate) increased and to become worse when it decreased, so that the patient's condition usually followed the velocity curve as shown in Figure 5.

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[3] Von Ziemmsen (Studien über die Bewegungsvorgänge am menschlichen Herzen, sowie uber die mechanische und elektrische Erregbarkeit des Herzens und des Nervus Phrenicus, Deutsch. Arch. f. klin. Med., 1882, xxx, 270) produced exactly similar paroxysms of tachycardia by galvanization, but not by faradization, over the precordium of a subject in which the chest wall had been removed along with chondroma of the ribs.

[4] Erlanger, J. and Hooker, D. R.: An Experimental Study of Blood Pressure and Pulse Pressure in Man, Johns Hopkins Hosp. Rep., 1904, xii, 145.

This observation, which was unpublished, has since been confirmed by the very long and careful studies of Brun Fellner,[5] Albert Fraenkel,[6] Lust,[7] and others, who show that in general digitalis and strophanthin increase the product. This is unquestionably true, but in the case just quoted the heart muscle was too far weakened to give this response until the digitalis was combined with nitroglycerin, when the velocity was greatly increased. In many cases the change in the velocity coefficient precedes the systemic change for some time, and may therefore be of value in predicting and in warding off impending trouble, so that in many cases it may furnish a good guide for treatment, especially in bed patients.[8]

TONICITY OF THE HEART MUSCLE.

Another line of investigation which is yielding promising results is the investigation of tonicity of the heart muscle. It has long been certain that important functional changes go on in the heart without manifesting themselves either on the blood pressure or the arterial or venous pulse curve, and that these variations are the preliminary steps which determine the later changes. Many of these are due to changes in tonicity of the heart muscle. The importance of a systematic study of cardiac tonicity in mammals was emphasized by James Mackenzie in 1904, and also by Gibson and Clifford Albutt, but so far as I am aware no experimental investigation has as yet been published. The subject was therefore studied experimentally by Dr. Cameron at my suggestion and under my direction during the past winter. The results are now being presented as a Doctor thesis at the University of Edinburgh, and as they will be published in detail within the next few months I shall merely describe his general methods and conclusions. Tonicity may be defined as the tendency of the muscle to resist stretching or overfilling of the heart when the walls are relaxed in diastole and changes in tonicity are shown by changes in ventricular volume at the end of diastole.

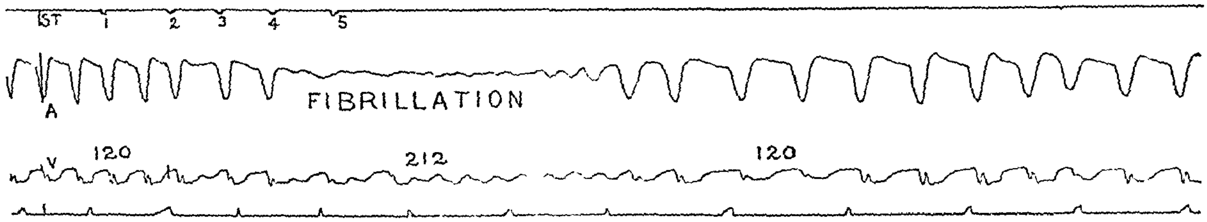

Fig. 4.—Tracing from heart of dog, showing suddenly beginning and suddenly ceasing tachycardia, brought on by faradic stimulation of the auricle A at 1, 2, 3, 4 and 5. V = ventricular contractions. Time in seconds.

The changes in volume of the ventricles were studied by inserting the ventricles into one of Yandell Henderson's cardiac plethysmographs, so that it fitted air-tight about the auriculo-ventricular groove, and connecting this with a large recording tambour. For convenience the tambour was inverted so that upstrokes record decrease in volume, downstrokes increase. The volume at the end of diastole indicates cardiac tonicity (at least when the change of rate, etc., is allowed for), that at the end of systole shows the amount of blood residual within the ventricle. These are relative not absolute terms. The diagram (Fig. 6) shows the relation of the curve to changes in tonicity, and especially that the latter is independent of systolic output. Other things being equal, an increased tonicity was accompanied by diminution in the volume of residual blood in the ventricle at the end of systole, while decreased tonicity was accompanied by accumulation of it, even to several times the amount thrown out at each systole. Such an accumulation as a rule gave rise to no irregularities nor outward manifestation other than more dilatation (Fig. 7).

Dr. Cameron found that practically all the drugs which are cardiac stimulants—digitalis, strophanthus, nitroglycerin and strychnin—increase cardiac tone to a marked degree. Adrenalin was the only one with which it was definitely diminished. The diminution in tonicity due to aconite was only about what would correspond to the same stimulation of the vagus. These results are especially interesting in the case of strychnin, since this effect may be obtained from doses so small that there is absolutely no effect on the mean blood pressure. Many text-books on pharmacology have stated that strychnin has no direct action on the heart, and the German writers do not include it at all in their treatment of cardiac diseases, but these studies of Cameron place the observations of American and English clinicians once more on an experimental basis.

The importance of preserving a proper degree of cardiac tone is shown also on subjecting the heart to a slight strain, as by clamping the thoracic aorta. If the tonicity of the heart muscle is good (Fig. 8, 1) there is a momentary dilatation and then the heart gradually pumps itself out and gets smaller and smaller until it is soon of even smaller volume than before the strain was put on it. Whereas, if the tonicity is low (Fig. 8, 2), the heart dilates and remains dilated; and a dilated heart works at a disadvantage, so that this may lead to further overstrain. If the heart is in very poor condition (Fig. 8, 3), the single strain may lead only to progressing dilatation and finally to death.

LABORATORY FINDINGS APPLIED IN THERAPEUTICS.

These experiments illustrate what goes on in muscular exertion and what we use in the Schott treatment. We do not give these exercises to too weakened patients, if we did it would still further depress their tonicity and make them worse. This sometimes actually happens when we are over-zealous in the treatment. But we aim to put a very mild strain on the heart, one that it readily overcomes, and one that, just as in our dog's heart, increases the tonicity and leaves the heart smaller than before, with less residual blood and in better condition to resist another strain.

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[5] Fellner, B.: Klinische Beobachtungen über den Wert der Bestimmung der wahren Pulsgrösse (Pulsdruckmessung) bei Herz- und Nierenkranken, Deutsch. Arch. f. klin. Med., 1907, lxxxviii, 1.

[6] Fraenkel, Albert, and Schwarz: Ueber intravenöse Strophanthintherapie bei Herzkranken, Arch. f. exper. Pathol. u. Pharmakol., 1907, lvii, 79.

[7] Lust: Klinische Erfahrungen mit der intravenösen Strophanthintherapie, Deutsch. Arch. f. klin. Med., 1908, xcii, 282.

[8] Since this article was written T. C. Janeway has published notes of a case in which the improvement bore no relation whatever to the velocity coefficient (The Use and Abuse of Digitalis, Am. Jour. Med. Sc., 1908, cxxxv, 781).

Cameron found, moreover, that the slowing of the circulation, the accumulation of CO_2 in the blood, and the slightest asphyxia caused a marked diminution in tonicity, so that in any cardiac overstrain we have instituted a vicious circle:

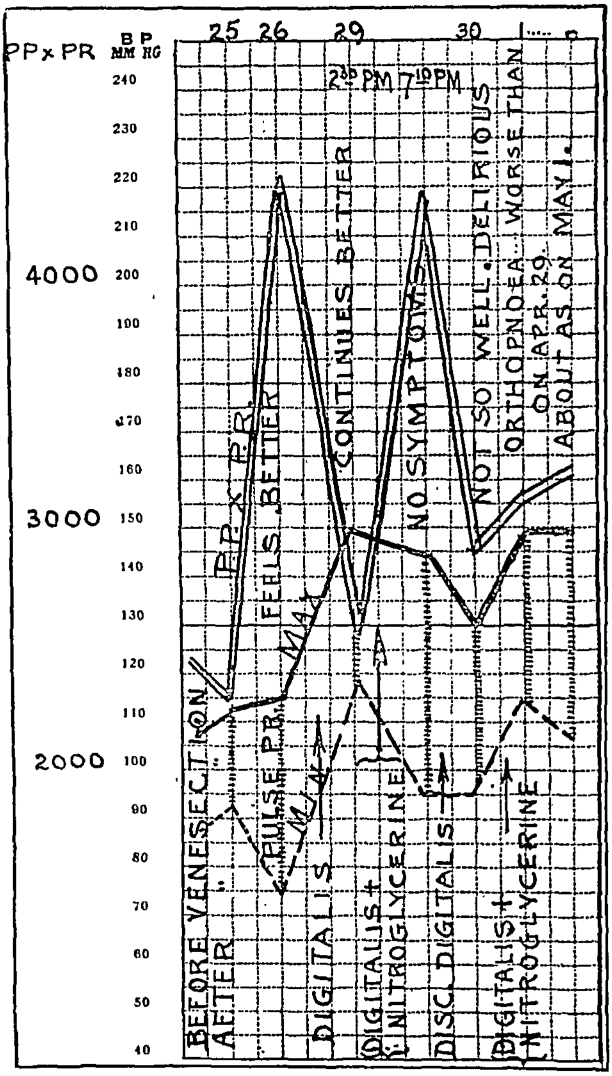

Fig. 5.—Showing course of symptoms in a case of myocarditis. = Pulse pressure × pulse rate. — Maximal pressure. - - - Minimal pressure. .... Pulse pressure.

DIMINISHED TONICITY
↗ ↘
SLOWING OF THE CIRCULATION, ACCUMULATION OF CO_2. <——— DILATATION AND WEAKENING OF THE HEART.

Another experiment has shown that the mere presence of an irregularity acts as a factor to bring about dilatation, partly by slowing the circulation and lowering tonus, partly by increasing venous pressure, so that as far as the permanent arrhythmias are concerned we have another vicious circle:

DILATATION, WEAK HEART
↗ ↘
DIMINISHED TONICITY ARRHYTHMIA
↖ ↙
SLOWED CIRCULATION INCREASED CO_2 IN BLOOD

There still remain several subjects on which I should like to touch, namely, the importance of the tonicity of the musculature about the mitral and tricuspid valves for the prevention of leaks, which can be demonstrated by inserting a cannula into the aorta of a sheep's heart, filling the ventricle under pressure, and observing the leak; throwing the muscle into heat rigor by boiling and then proving that the leak no longer appears.

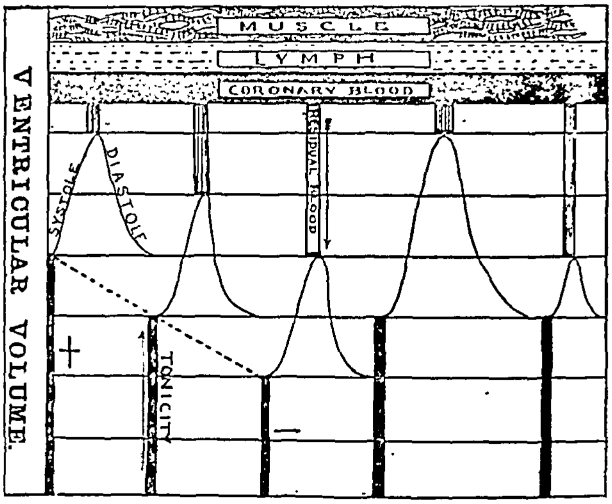

Fig. 6.—Diagram illustrating changes in tonicity and systolic output, showing elements which enter into the total volume of the ventricles and variations in tonicity with and without variations in systolic output. Length of heavy black line indicates degree of tonicity; that of shaded line amount of residual blood.

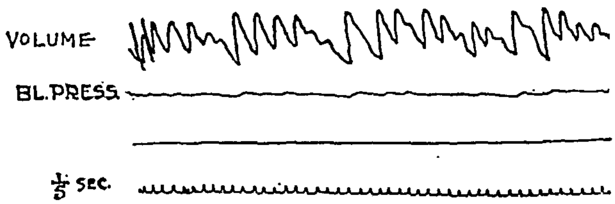

Fig 7.—Volume curve in experimental irregularity. Showing the tendency to dilatation (downstrokes).

RELATION OF LEAKAGE TO MURMUR.

Secondly, I should like to call attention to the importance of obtaining some idea not only of the noise made by the leak but also of the amount of leakage that actually occurs. In the experiments done with Dr. H. A. Stewart[9] on aortic insufficiency, we always found that a leak at the aortic orifice meant fall in diastolic pressure with increased pulse pressure. These leaks were sometimes almost completely plugged by fibrin, leaving only small channels for the regurgitant eddies. The murmur remained; the diastolic pressure returned to normal; and the leak was, for practical purposes, gone. As you may notice in Figure 9, the analogy with the vocal cords, a small leak with narrow orifice may give a loud murmur, while a very wide one like the vocal cords of quiet breathing may give none.

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[9] Stewart, H. A.: Experimental and Clinical Investigation of the Pulse and Blood Pressure Changes in Aortic Insufficiency, Arch. Int. Med., 1908, i, 102

In presenting these facts and questions it has been my aim not only to present them as facts, no doubt familiar to many, but particularly with a view toward arousing or increasing interest in the experimental side, not merely of pathology and of abstract pharmacology, but of practical therapy: as a plea for the habit of carrying the problems of the bedside to the laboratory, from the patient direct to the animal, and then at once back again for verification on the patient.

DISCUSSION.

DR. WILLIAM S. THAYER, Baltimore: The pulsus alternans, instances of which spring up occasionally and last a considerable length of time, is not a common condition. I have seen two cases, one of which was particularly interesting. This was the case of a patient with myocarditis who was under my observation for several months. She had long periods of irregular heart action, pulsus alternans, and presented all the evidences of grave changes in the heart muscle. Muller in the *Archives of Internal Medicine* has written on the subject of the extra systole. I can not help feeling that a great many instances of extra systole occur in young individuals; and it is among these young individuals that not such a serious view of the condition is taken as is warranted.

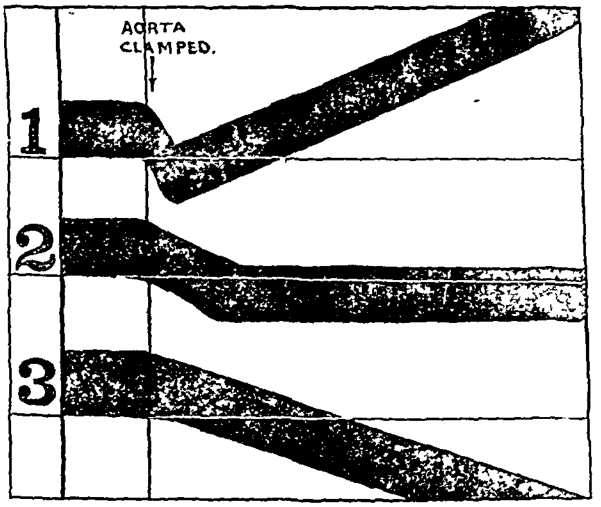

Fig. 8.—Showing effect of clamping the aorta on the volume of the heart. Diagrammatic, after experiments done with Dr. Cameron. 1, Tonicity increased by strain; 2, low tonicity, permanent dilatation; 3, very low, complete heart failure.

DR. G. W. McCASKEY, Fort Wayne, Ind.: It is of great value to the clinician to estimate the pulse pressure by the difference between the systolic and diastolic pressure, as shown by Erlanger's apparatus. This represents the actual work done by the heart, and it indicates in a general way the working efficiency of the heart. If the systolic pressure, for example, is 200 and the diastolic pressure 175 or 180, representing a difference of 25 or 20—this being the pulse pressure—the condition is much more serious than the same systolic pressure with a diastolic pressure 35 or 40 mm. less. The pulse pressure represents the work the heart is doing. All this rests on well recognized physical laws and has its application in clinical medicine. The result gives us Erlanger's velocity coefficient, which represents still more accurately the work the heart is doing. This does not express the volume of blood the heart is forcing through the circulatory apparatus in units of any sort, but is simply an arbitrary datum available only for purposes of comparison, but certainly has a very considerable clinical value. One of the results of the work that is being done in this line to day is the diagnostic and prognostic value obtained by the administration of drugs of the digitalis group. I have come to regard the effect of the early administration of digitalis of the highest diagnostic and prognostic value in some obscure cases of arrhythmia. If the giving of digitalis produces a bad effect on the heart I am inclined to believe that perhaps there are initial changes going on in the bundle of His which ultimately will lead to heart block.

DR. ARTHUR D. HIRSCHFELDER, Baltimore: Extra systole is something of extreme importance. The only physical factors known at the present time to bring about extra systole are those to which I have just called attention. It is impossible to determine in an individual clinical case exactly what influences are at work. Therefore I believe that the only thing one can do under these conditions is, as Dr. McCaskey has suggested, to administer digitalis early when there seems to be a physiologic indication for it, in order to determine whether the arrhythmia is improved by it or not: in making this determination the action of the drug must be most carefully watched. It is also possible to use strophanthus in this condition if the preparation is a good one. It is a little milder and quicker in its action but perhaps more transitory. With regard to the velocity coefficient I am sorry that I am even more conservative than Dr. McCaskey in advocating it as an index for treatment on account of the exceptions which have been mentioned. There is need of further investigations along these same lines before anything of great value can accrue from them. With regard to the value of the estimation of pulse pressure and high tension, as for example a systolic pressure of 200 and a diastolic pressure of 140, as quoted by Dr. McCaskey, I wish to call attention to the fact the pulse pressure naturally increases where there exist conditions which cause a high systolic pressure. The same amount of systolic output should give rise to greater variations in the pressure at high rather than at low pressure. Consequently one must allow for that to a certain extent. Dawson of Baltimore has approximately reached that conclusion, dividing the pulse pressure by the mean pressure. One must make allowance for and bear continually in mind those factors which produce and perpetuate high pressures.

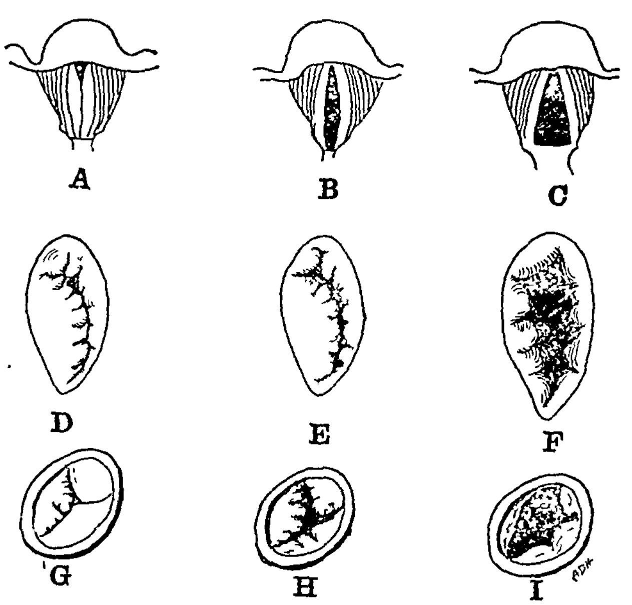

Fig. 9.—Showing analogy of positions of vocal cords for voice production and positions of heart valves in the production of murmurs. Upper line, showing larynx, with (A) vocal cords in position for high head note; (B) for low chest note; (C) for quiet breathing. Middle and lower lines showing auriculoventricular (D, E, F) and semilunar (G, H, I) valves with beats increasing from D, G to F, I.

A CLINICAL METHOD FOR THE DETERMINATION OF THE SODIUM CHLORID CONTENT OF THE BLOOD AND OTHER BODY FLUIDS.

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The object of this paper is to present a practical working method for the determination of the sodium chlorid content of the blood and other body fluids, together with the results obtained by this method in a variety of disease processes. Especial interest attaches to such a study because of the questions that have been raised during the past few years relative to chlorid retention and excretion in certain acute and chronic maladies.

The amount of sodium chlorid in the blood of normal individuals is generally estimated as being about 0.5 per cent. (v. Jaksch). In the oft-published tables of C. Schmidt[1] the proportion of sodium chlorid in healthy human blood is given as 0.5546 per cent., while Biernacki[2] gives lower values and finds normal variations between 0.441 and 0.468 per cent. The discrepancy in these findings probably depends on the fact that analyses of the ash of the blood are among the most difficult in chemistry for the reason that certain substances, including chlorin, are easily volatilized if too much heat is applied. Furthermore, it is to be remembered that practically all the sodium chlorid resides in the plasma, while very little, if any, is present in the blood corpuscles. Hence analyses of blood obtained postmortem after more or less clotting has occurred are absolutely unreliable, and the error inherent in such a method of procedure is responsible for the bizarre findings in certain recent investigations of the blood in diseased conditions of the body, as I shall presently show.

The method of sodium chlorid determination which forms the basis of this paper is one which is applicable in the routine bedside study of the patient, and one that can be easily carried out by any one versed in the workings of the regular clinical laboratory. It is an adaptation of the well-known Salkowski-Volhard method of the quantitative estimation of the chlorids in the urine and gastric contents. There would seem to be no reason why this procedure, as a clinical method, should not apply in the case of the blood, provided that the proteid constituents be first removed so that the silver nitrate used will not combine with these to form silver albuminates. In order to rid the blood of the albumins it was decided to precipitate and oxidize these bodies by nitric acid as a preliminary step. After this the method departs in no way from the routine procedure as used in the case of the urine. The results of the first experiments gave values for sodium chlorid in agreement with those of previous investigators, and further work showed variations which are exceedingly slight in degree and well within the limits of error of any clinical method.

METHOD OF OBTAINING THE BLOOD.

The requisite amount of blood is secured from one of the larger veins at the bend of the elbow by means of an aspirating syringe. A simple form of apparatus consists of a piece of glass tubing, diameter 10 mm., with tapering ends. To one end is attached a short piece of rubber tubing connected with a large-sized hypodermic needle; to the other is attached rubber tubing with a mouthpiece such as is used with the ordinary blood-counting pipette. This latter end of the glass tube is made large enough to readily admit the stem of a regular 1 c.c. volumetric pipette. This apparatus is easily constructed and is similar to one described in Ewing's "Clinical Pathology of the Blood,"[3] except that the needle is not attached by a ground-glass connection.

The skin on the inner surface of the elbow is thoroughly cleaned with alcohol and sterile pledgets, and the apparatus—with the exception of the long rubber tubing—is boiled. After carefully blowing out all the contained water the needle is introduced into the vein through the skin and the blood aspirated by suction. About 2 or 3 c.c. of blood are drawn into the glass tube, the needle is withdrawn, the rubber tubing connecting the needle with the syringe is compressed, the tubing leading to the mouthpiece is disconnected from the syringe, the volumetric pipette is introduced into the syringe and 1 c.c. of blood is measured out. The whole procedure can be done carefully and rapidly before there is any tendency to clotting.

METHOD OF THE CHLORID DETERMINATION.

One cubic centimeter of blood, exactly measured as above described, is placed in 25 c.c. of nitric acid solution (concentrated nitric acid, C. P. 1 part, distilled water 3 parts). The volumetric pipette is rinsed out four or five times with distilled water and the washings added to the blood and nitric acid mixture. The color varies from reddish-brown to chocolate-brown, varying very appreciably with the hemoglobin content of the blood. The albumin bodies of the blood are at once precipitated and oxidized by the nitric acid, while the sodium chlorid content is unaffected.

To this solution are added exactly 5 c.c. tenth-normal silver nitrate solution. This is well shaken, allowed to stand ten minutes, and then put in a 50 c.c. graduated flask and the amount made up to the 50 c.c. mark with distilled water. This is then poured into a clean beaker, thoroughly mixed, and 25 c.c. are filtered into a graduated flask of that capacity. This filtrate, which is almost colorless, is used for the titration.

Ten drops of a saturated aqueous solution of ferric ammonium sulphate are added to the filtrate as an indicator. Into a burette, graduated in 1-20 c.c., is placed a twentieth-normal solution of ammonium sulphocyanid. Titration is then carried on until every trace of silver is precipitated, when the sulphocyanid combines with the ferric salt to form the reddish-brown ferric sulphocyanid. The end reaction is very sharp and the titration is stopped at the first tinge of color.

The calculation is very simple. The number of cubic centimeters of the sulphocyanid solution required is deducted from the volume of silver nitrate solution used (5 c.c.) and the difference, in the terms of NaCl, represents the amount of chlorid, as NaCl, in one cubic centimeter of blood. 1 c.c. $\frac{N}{10}$ $AgNO_3 = 0.00585$ gm. NaCl.

(The calculation requires that the number of cubic centimeters of sulphocyanid solution be multiplied by 2, as only 25 c.c. of the filtrate were used and not the entire 50 c.c., and this sum is then to be divided by 2 for the reason that 2 c.c. of twentieth-normal sulphocyanid solu-

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] American Text Book of Physiology, ed. 2, i, 50.

[2] Untersuchungen uber die chemische Blutbeschaffenheit bei pathologischen Zustanden, Ztschr. f. klin. Med., 1894, xxiv, 460.

[3] Second edition, page 67.

tion is equal to 1 c.c. tenth-normal silver nitrate solution.) In my experiments I made up an approximately twentieth-normal sulphocyanid solution, and then determined the exact value of 1 c.c. of this solution in terms of silver nitrate and sodium chlorid.

In the following report of cases attempt was made to study a variety of conditions which might prove to be of interest from the possible changes of the sodium chlorid content of the blood. In each case the amount of sodium chlorid in 1 c.c. of blood was determined, but for comparison with previous results in which a weighed quantity of blood was used, the sodium chlorid in 1 gram of blood is estimated by dividing the amount in 1 c.c. by 1.060, the specific gravity of normal blood. This introduces a slight error in the cases of anemia in which the specific gravity is necessarily lower than normal.

That this method is not at all difficult to carry out, with due regard to the accuracy required in any quantitative chemical analysis, is seen in the fact that this small series of cases represents every consecutive experiment I have made with the exception of two early ones in which the technic of obtaining the blood was at fault.

REPORT OF CASES.

CASE 1.—Male, aged 43, with aortic insufficiency, broken compensation, dyspnea, cough, enlarged liver, edema of ankles; 1 c.c. blood contains 5.49 mg. sodium chlorid, or 0.518 per cent. sodium chlorid by weight.

CASE 2.—Male, aged 29, with gastric neurosis with absence of free HCl after test breakfasts. For past ten days he has been taking 3 drams of dilute hydrochloric acid daily; 1 c.c. blood contains 5.34 mg. sodium chlorid, or 0.504 per cent. sodium chlorid by weight.

CASE 3.—Male, aged 24, with epilepsy. Patient has been on a diet with restricted salt for past three months, and has taken no bromid during this period; 1 c.c. blood contains 5.49 mg. sodium chlorid, or 0.518 per cent. sodium chlorid by weight.

CASE 4.—Male, aged 40, with chronic interstitial nephritis. He has hypertrophied heart, relative mitral insufficiency, moderate dyspnea, blood pressure from 218 mm. to 235 mm., marked neuroretinitis, occasional vomiting, no diarrhea. The urine is increased in amount, of low specific gravity, with a good trace of albumin and a moderate number of hyaline casts. Determination of the chlorids in the urine shows an excretion of 4.37 gms. in 24 hours. Patient is receiving no medicines, is on liquid diet, and is being given a daily sweat-bath; 1 c.c. blood contains 5.19 mg. sodium chlorid, or 0.489 per cent. sodium chlorid by weight.

CASE 5.—Male, aged 19, with chronic parenchymatous nephritis. He has marked general anasarca, hydrothorax and ascites, and pronounced anemia. Urine: 1,950 c.c. in 24 hours; specific gravity, 1.018; albumin, 8 gm. per liter; many hyaline, finely and coarsely granular casts. Determination of chlorids shows an excretion of 6.16 gm. sodium chlorid in 24 hours. Left chest was aspirated and 1,900 c.c. serous fluid withdrawn. This contained 7.28 mg. sodium chlorid per c.c.; 1 c.c. blood contains 5.80 mg. sodium chlorid, or 0.547 per cent. sodium chlorid by weight.

CASE 6.—Male, aged 32, with acute lobar pneumonia. Seventh day of illness: He has consolidation of whole left lung, continuous fever, delirium, herpes, etc. Urine: 2,450 c.c. in 24 hours, with total chlorid excretion of 1.04 gm. sodium chlorid; 1 c.c. blood contains 5.65 mg. sodium chlorid, or 0.533 per cent. sodium chlorid by weight.

CASE 7.—Same patient as in Case 6. Eighth day of illness: Crisis occurred last night. 1 c.c. blood contains 5.49 mg. sodium chlorid, or 0.518 per cent. sodium chlorid by weight.

CASE 8.—Male, aged 53, with carcinoma of stomach, for which gastroenterostomy has been done. He has marked prostration and anemia. Hemoglobin, 35 per cent.; 1 c.c. blood contains 5.95 mg. sodium chlorid, or 0.561 per cent. sodium chlorid by weight.

CASE 9.—Female, aged 29, with marked secondary anemia due to bleeding hemorrhoids. Red blood corpuscles, 2,100,000; white blood corpuscles, 7,200; hemoglobin, 25 per cent.; 1 c.c. blood contains 6.24 mg. sodium chlorid, or 0.588 per cent. sodium chlorid by weight.

CASE 10.—Same patient as in Case 4. Uremic coma; duration, 48 hours; void urine involuntarily. This examination was made 27 days after that recorded in Case 4, and 3 days before death; 1 c.c. blood contains 5.34 mg. sodium chlorid, or 0.504 per cent. sodium chlorid by weight.

CASE 11.—Male, aged 17, with acute lobar pneumonia; consolidation of right lower lobe. Sixth day of disease. Urine: 810 c.c. in 24 hours, with total chlorid excretion of 1.92 gm. sodium chlorid; 1 c.c. blood contains 5.19 mg. sodium chlorid, or 0.489 per cent. sodium chlorid by weight.

CASE 12.—Male, aged 34, with Hodgkin's disease. Patient is in hospital for diagnosis and is receiving no medicine. Red blood corpuscles, 3,016,000; white blood corpuscles, 9,600; hemoglobin, 37 per cent.; 1 c.c. blood contains 5.80 mg. sodium chlorid, or 0.547 per cent. sodium chlorid by weight.

CASE 13.—Male, aged 18, with splenomyelogenous leukemia. On admission three weeks ago leucocyte count on three examinations showed 268,000, 220,000 and 241,000 white cells per c.mm., with typical blood picture. The spleen is exceedingly large. Since admission he has been treated with arsenic and *x*-ray applications. To-day blood count shows: Red blood corpuscles, 2,560,000; white blood corpuscles, 26,800; hemoglobin, 45 per cent.; 1 c.c. blood contains 6.38 mg. sodium chlorid, or 0.601 per cent. sodium chlorid by weight.

The sodium chlorid content of the blood in this series is seen to vary between 0.489 per cent. and 0.601 per cent. The former figure was obtained in two cases, one case of chronic interstitial nephritis and one of pneumonia, the latter in the patient with leukemia with secondary anemia. It is at once noted that the higher values are found in the patients with anemia, including one case each of chronic parenchymatous nephritis, Hodgkin's disease, carcinoma of stomach, secondary anemia due to bleeding hemorrhoids, and leukemia. On the other hand, the lowest values are found in those conditions which are associated with venous stasis as is well seen in one of the pneumonia cases, and in the patient with chronic interstitial nephritis with relative mitral insufficiency and dyspnea. These findings are in entire accord with the results of cryoscopic examinations of the blood in similar conditions. Thus, the extensive researches of Koranyi[4] showed that the freezing point of the blood is higher, i. e., above 0.56 degrees C., in anemias and those fevers which do not interfere with the respiration, including chlorosis, tuberculosis, typhoid and the various cachexias; while the freezing point of the blood is lower than 0.56 degrees C. in all diseases which are accompanied by deficient respiration or kidney function, or both, including pneumonia, broken compensation in cardiac disease, and nephritis.

In spite of the fact that the salt content of the blood is generally accepted to be practically constant in both health and disease, as is abundantly confirmed by cryoscopic studies, yet a review of the recent literature on the subject of chlorid retention reveals frequent reference to "chloridemia."

Furthermore, several monographs, representing arduous chemical investigations, have lately appeared in which the authors have found marked variations in the sodium chlorid content of the blood in the different conditions studied. The most extensively quoted of these is a paper by Rumpf[5] who made complete analyses of the blood, kidney, heart, liver and spleen postmortem. In fifteen cases of nephritis he obtained values for sodium chlorid in the blood from 0.532 per cent. to 0.141 per cent. He concludes, in part, as follows: "In many cases of nephritis the chlorid content of the blood and of the tissues is increased; nevertheless, the chlorid content in nephritis gives by no means the highest values. Furthermore, there are cases of chronic nephritis in which the chlorid content of the blood is rather diminished than increased in spite of edema, albuminuric retinitis, and uremic phenomena."

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[4] Ztschr. f. klin. Med., 1897, xxxiii, 1-54; 1898, xxxiv, 1-52.

[5] Ueber chemische Befunde bei Nephritis, München. med. Wchnschr., 1905, lii, No. 9, p. 393.

This author's conclusions are based on results that are entirely inaccurate for the reason that the blood was obtained at the postmortem table at varying periods after death. As is well known, nearly all the sodium chlorid resides in the plasma, and the clotting and sedimentation of the blood prevented him from obtaining the due proportion of corpuscles and plasma in the specimens weighed out for chemical investigation. It was the frequent reference to Rumpf's paper that led me to devise the method of sodium chlorid determination herein contained. The results in my cases, however, are in entire accordance with the findings of cryoscopy and the generally accepted fact that the sodium chlorid content of the blood, or rather plasma, is remarkably constant both in health and in disease.

The application of this method to the study of transudates and inflammatory exudates may prove to be of interest. I have had the opportunity of making only three experiments in this direction, as follows: Arthritis of knee, clinical diagnosis tuberculosis, 1 c.c. fluid contained 6.38 mg. sodium chlorid; hydrothorax in a case of chronic parenchymatous nephritis, 1 c.c. fluid contained 7.28 mg. sodium chlorid pleurisy, with effusion, 1 c.c. fluid contained 6.38 mg. sodium chlorid.

SUMMARY.

The sodium chlorid content of the blood and body fluids may be accurately estimated by an adaptation of Volhard's method of quantitative chlorid determination after first precipitating and oxidizing the albumin bodies by nitric acid. The method requires one cubic centimeter of blood, aspirated from a vein, and accurately measured in a volumetric pipette. Clinical applications of this method show a practically constant value for sodium chlorid in a variety of conditions such as nephritis with and without edema, uremia, pneumonia, epilepsy, gastric anacidity, and conditions of cachexia. Variations in the amount of sodium chlorid depend on the relative proportion of plasma and corpuscular elements in the specimen examined, with the highest values in cases of anemia and the lowest figures in patients with venous stasis due to heart, kidney or lung affections.

CONCLUSIONS.

1. The proportion of sodium chlorid in the plasma of the blood is constant in conditions of health and disease.
2. The term "chloridemia" is unjustified.

Interest in the Case.—It is said of some physicians they are good only for serious cases, for these are the only class of cases they show interest in. This class of physicians necessarily limit their work for the very serious cases are few in number and are usually not serious at first. A keen interest in his ailment is demanded by each patient though it is but a rhinitis or a fancied illness, and many of the fake healers would be out of business if the physician had shown an interest in the case which afterward wandered away from him.—*Leucocyte.*

RELATION OF SO-CALLED OPHTHALMIC MIGRAINE TO EPILEPSY.*

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I venture to offer a word on the subject of the relation of so-called "ophthalmic" migraine to epilepsy—a subject on which discussion is by no means closed.

The "ophthalmic" migraine of Charcot I do not regard as essentially an ophthalmologic subject, but the accompanying, and often quite alarming visual and other sensory disturbances, many of which are naturally referred to the eyes, lead the afflicted to consult an ophthalmologist. This, together with its frequency of occurrence, gives the ophthalmologist a large opportunity to see and study cases of this kind—an opportunity which is unequaled by any other class of practitioners.

From the time of Airy's graphic description,[1] in 1868, and of Liveing,[2] in 1873, to that of Gowers[3] of the present day, the symptoms of this affection have been presented to the profession over and over again, and are, or should be, familiar to all. Therefore, I shall at once invite attention to the relation of this disease, expressed by visual scintillations and scotomata, motor and sensory disturbances, aphasia, etc., to epilepsy.

That a difference of opinion still exists in regard to the relationship of these two diseases is shown by the following quotations from two excellent authorities. Dr. William P. Spratling[4] says: "I believe it (migraine) is associated with the disease (epilepsy), especially in women, who more frequently show a periodicity in convulsive phenomena than men. Unquestionably some of the lighter forms of epilepsy pass for periodic sick headaches. It is a rule for psychic seizures to be followed by an intense, protracted pain in the head, that may persist for several days." On the other hand. Dr. James Hendrie Lloyd[5] says in regard to the possibility of the transition from migraine to epilepsy: "This claim is made by some authors, but the present writer has never seen or heard of an authentic case, and does not believe in the doctrine."

Most authorities endorse the conclusions of Liveing and some of his predecessors, which are voiced by Spratling. Believing that migraine and epilepsy are two distinct forms of neurosis. I desire to do what I can toward disabusing the profession of the idea that a kinship exists between them, or that a genuine transformation of one into the other ever takes place.

By way of illustration, one of the more recent efforts to establish such kinship has been made by Dr. Spiller of Philadelphia, who has described in detail two cases.[6]

Case 1.—A man, 51 years of age, who, since 44, had had attacks occurring twice a year at first, but now quite frequently. During the first four years there was numbness of the tongue on the right side, and inability to speak, the attacks lasting a minute or two. At 48 he began to have similar attacks of numbness in his right upper limb, and after a short time in his right lower limb. The paresthesia was always confined to the right side of the body, and was associated with impaired function of speech and weakness of the hand. There was also a feeling of tension in the limbs at times, and the right eye would feel drawn upward, to the right, and backward when the numbness passed to the right side of the head. When seen in the attacks, however, the eyes were not drawn upward. In the lighter attacks there was no loss of consciousness, but in the "major" attacks there was loss of consciousness and he would fall. These attacks were preceded for twenty minutes by an unusually "well" feeling, followed by drowsiness, and as they came on he would utter a sound like "uh-uh-uh."

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Philosoph. Trans. Royal Soc., Lond.

[2] Megrim or Sick Headache, London, 1873.

[3] Subjective Sensations of Sight and Sound, etc., London, 1904.

[4] Epilepsy and Its Treatment, 1904, p. 180.

[5] Posey and Spiller's "The Eye and the Nervous System," 1906, p. 710.

[6] Am. Jour. Med. Sci., January, 1900.

He sometimes remained unconscious in severe attacks for half to three-quarters of an hour. The attack was followed by bewilderment for a short time. There was a slight tremor of the hands, but no jerkings or twitchings. He had not suffered from headache, was seldom dizzy and never had hemianopsia, scintillating scotoma, or other visual disturbances.

This case Dr. Spiller considers one of epilepsy in which the absence of convulsions is a noteworthy feature.

Case 2.—A well-developed woman, 21 years of age, when 4½ years of age, fell and struck her head, leaving a red spot on the right side. She was at first confused, and in a few minutes became unconscious. After a short time she began to scream and could not be quieted for several hours. For several days afterward her mind was exceedingly active. Some months after the fall she had an attack in which the right arm fell powerless to the side of the body, and the whole right side seemed paretic for about half an hour, and she complained of headache.

These attacks recurred for several years, sometimes being on the right side and sometimes on the left, but never on both sides. As she grew older she explained that in the attacks there was numbness and paresis of the limbs, paraphasia, and intense headache on the side opposite to the affected limbs. The numbness began in the fingers and passed upward. She was unable to speak correctly when the numbness reached the tongue. The visual disturbances were doubtful. In one attack during the past year there was dimness of vision. No convulsions ever occurred. The headache, when frontal, was attended by a sense of sweet odor, when none existed.

On Oct. 4, 1899, she was suddenly attacked by severe headache, a few minutes after which she became quiet, and her father, a physician, thought she was unconscious. She soon began to complain of pain again, and a very small amount of chloroform was administered. After the attack was over she had a very imperfect recollection of what happened. This was doubtfully interpreted as an epileptic seizure.

In these two cases Dr. Spiller believes that he finds a connecting link between epilepsy in the first and migraine in the second by means of the transitory paresis, paresthesia, and disturbance of speech found in both.

Sir William Gowers, Féré, Charcot, Diller, Möbius, and others, refer to their experiences corroborating the theory that the two diseaes are related to each other. Gowers,[7] in speaking of the pathology of migraine, and especially of its relation to other diseases, says: "The most important and one of the most frequent of these associations is the relation of migraine to epilepsy. The connection of the diseases is of especial interest because the sensory disturbance of the two has so many common features." He then refers to cases of epileptics in whom migraine was present in themselves or in their ancestors or descendants. He says he has met with a number of cases in which there was both epilepsy and migraine. In some, epilepsy developed after many years of migraine or seemed to grow out of it. In one, the migraine which had existed for years almost disappeared when the fits occurred, and vice versa. In some there were similar sensory symptoms preceding the epilepsy to those in migraine.

In all that Dr. Spiller or others have said it has not been proved that these supposed "connecting-link" symptoms belong essentially to true epilepsy, or that they are necessarily forerunners or development-symptoms of it. Undoubtedly among those affected by transitory paresis and paresthesia there are thousands who never have epilepsy to one who has. They are, however, common in those affected by migraine. Again, undoubtedly, there are thousands who are subject to migraine, even the typical "ophthalmic" form, who are not epileptic, to one who is. My own observations serve to prove this assertion.

The effort has been made to establish a relationship not only between migraine and epilepsy, but also between migraine and other disorders. Gowers[7] says that gout bears a causal relation, and adds that "an alternation is often observed with some other forms of neurosal disorders or at least a transition from one to another. Migraine occasionally ceases, and is replaced by simple neuralgia." Liveing[2] has collected many instances of such transition of migraine to gastralgia, laryngeal spasm, anginal seizures, and paroxysmal insanity. In one case, acute mania came on.

In my opinion, more proof than these and similar citations is required to establish a kinship or transition (transformation, according to Liveing), of migraine to other diseases. In the first place the pathology and pathogeny of migraine is very obscure. Second, certain symptoms may or may not attend it, such as aphasia, paresis, paresthesia, etc. Some of these are complained of by persons who are neither migrainous nor epileptic. Third, altered states of the nervous system and of metabolism in various ways may induce or aggravate migraine, or, on the contrary, so act as to alleviate it, or perhaps even to stop it entirely, at least for a time. In my own case, an ocean voyage does away with attacks of migraine entirely, during the time, and often for many months afterward; but it can scacrely be assumed that there is a direct transition or relation between migraine and seasickness. A change, however, is undoubtedly effected, etiologically, by which the migraine is abated.

DIFFERENTIAL DIAGNOSIS.

The argument that there is a similarity of symptoms of migraine to those of epilepsy does not seem to me to be well sustained. A paroxysm of epilepsy is sudden in its onset, begins almost without warning, and at once reaches a climax. Its duration is short and the patient soon becomes normal again. That of migraine begins with slight symptoms which gradually increase in severity and reach their climax after a half hour or one hour. Even the visual disturbances which sometimes usher in an attack are at first slight and gradually become more pronounced for ten or fifteen minutes, when they reach their height, and then slowly disappear in the course of another ten or fifteen minutes. In epilepsy there are convulsions, in migraine there are none. In epilepsy there is unconsciousness, in migraine there is not. In epilepsy there are varied sensory and mental disturbances which do not belong to migraine, and vice versa. Epilepsy often leads to insanity; migraine does not. Epilepsy has the character at first of an "explosion," while migraine is at first more like a "nervous inhibition." The sequence of an attack is different in both diseases.

I may add that my personal experience and observation also serve to establish a separate, individual entity, functional, or otherwise, for the two diseases.

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[7] Diseases of the Nervous System, Am. Ed., 1888, p. 1182.

Having been myself affected from childhood with typical migraine, ushered in by "fortification" and "spectral" visual scotoma and having been somewhat disturbed by the idea of its kinship to epilepsy, a disease to which death would almost be preferable, which Liveing and other high authorities had promulgated, I have been led to take deep interest in the subject. I have had migraine in all its variations as to intensity, frequency, accompanying motor and sensory disturbances, length of interval between attacks, etc., but have never had a single symptom of epilepsy. In my mother's family and my own, there have been, besides myself, twelve who have been subject to migraine, but not one has had epilepsy in any form.

My practice has given me a large opportunity to extend my inquiries far beyond my family limitations, with results that are not only enlightening, but, as it seems to me, comforting to one afflicted with "ophthalmic" migraine, and who has an intense abhorrence of becoming an epileptic.

Since 1888 I have been consulted by a very large number of migrainous patients. I have not collected the full number, but it must have exceeded two thousand. But to keep the number within the bounds of absolute certainty, I will place it at fifteen hundred, or an average of seventy-five a year. I have questioned these patients in regard to symptoms of epilepsy, and not one of the fifteen hundred had had epilepsy in any form or degree, neither had it existed in any of their ancestors or descendants, so far as I was able to ascertain.

It is not impossible that migraine and epilepsy may exist in the same individual. In fact, I know a few epileptics who are also subject to migraine, but the attacks are entirely separate and independent. Neither will I question the changed manifestations of one disease in the presence of the other, but I do not think that this proves a kinship or transformation. If migraine is related, either etiologically or pathologically, to epilepsy, it does seem that during its existence for a period of years, varying from one to fifty, a certain proportion of fifteen hundred would have become epileptics or shown some symptoms of epilepsy. But no such result has taken place.

I have no doubt that some epileptics may be migrainous, and that occasionally out of so many who have migraine there may be, now and then, one who is also epileptic or who may develop epilepsy. But this does not prove a pathologic kinship. It might as well be assumed that there is a relationship between dyspepsia and epilepsy because certain epileptics have dyspepsia, or certain dyspeptics have epilepsy.

I might enlarge on this subject, perhaps with profit, but Sir William Gowers, apparently with a decided change of views, has most clearly, as it seems to me, epitomized in his late volume[8] conclusions that nearly approach my own. I will make a single quotation from that work:

"The traces of a definite relation of migraine to epilepsy are slight. In extremely rare instances one affection may develop, while the other goes on, and as we have seen, the same premonitory disturbance may even be attached to each. But such cases are so rare as rather to emphasize the rule to which they form exceptions. When the exceptions are carefully examined they show that any relation to epilepsy is indirect."

DISCUSSION.

Dr. Walter R. Parker, Detroit: The result obtained from efforts to determine the relationship of diseases when clinical symptoms are similar, the etiology and pathology of which are unknown, is certain to be unsatisfactory. And such is the case in regard to migraine and epilepsy in the so-called borderline cases. Migraine is defined as a neurosis, the cause of which is unknown, giving rise to certain functional disturbances, classified according to the most prominent symptoms, as, first, ophthalmic, if the visual sense is disturbed; second, ophthalmoplegic, if the third nerve is involved, and third, psychic if the mental symptoms predominate; a classification entirely clinical. So, too, epilepsy is a neurosis, the cause of which is unknown. The relation between the two diseases is made entirely on clinical evidence. Some rare cases of extreme asthenopia, with headache, vertigo and reflex gastric symptoms, due to a refractive error or muscle imbalance, may present a group of symptoms not unlike those of migraine or epilepsy. If this is true, is it not possible that, in the consideration of these cases, not enough importance has been given them?

Some of the early writers (Piorry) asserted that ophthalmic migraine was due to "overstrain of the iris and overstimulation of the retina," while a few of the later writers think that eyestrain is never a causative factor. Lloyd, in Spiller and Posey's work, after reviewing the subject of eyestrain as a possible etiologic factor, states that "some hasty observers are led into a conceivable error due to the prevalence of astigmatism." To say that all cases of migraine are due to a refractive error would probably be as far from the truth as to say that all cases of epilepsy that are cured by the correcting of a refractive error are due to hysteria. Either the truth lies between those two extremes or there is a group of cases, presenting all the clinical manifestations of migraine, which might be called a reflex migraine; just as there are cases of reflex epilepsy, each reflex manifestation distinguishable from the real only by the results of treatment. It may be, too, that this small group of cases has been the source of error that has led some observers to hold out promises of cure of migraine and epilepsy that have been so disappointing. Since the causes of migraine and epilepsy are unknown, and since there is a possibility of a reflex group simulating one or the other of the diseases, the relation between them will probably remain in doubt until the morbid process underlying each is developed. Gower says: "As the real nature of the morbid process of epilepsy and migraine is unknown, we are hardly justified in saying more than that in each malady a state of nerve tension seems slowly to develop which is at last relieved by a violent functional disturbance." I have not seen as many cases in fifteen years as Dr. Hubbell sees each year. It is this large number of cases that makes the paper so important, as we are entirely dependent on clinical observation for our comparison of these most unfortunate diseases. As far as any positive deductions are possible, we can say that no direct relation between the two diseases has been proved and, as Dr. Hubbell suggests, we can with propriety assure our migrainous patients that they will probably not develop epilepsy.

Dr. Leartus Connor, Detroit: I do not recall a single case in which I had reason to believe that migraine had any relation to epilepsy, and nothing I did to an eye ever cured an epileptic. Neither have I seen in the literature anything to convince me that any treatment of an eye ever really cured a case of epilepsy. I have seen plenty of cases in which the treatment of the eye has diminished or modified attacks of migraine.

Dr. G. C. Savage, Nashville: Migraine can be cured by treatment of the eye in many cases. I have even cured epilepsy by operating on the muscles and by prescribing glasses. No examination, undertaken for the correction of nervous phenomena that might possibly depend on the eye, is complete, unless the feature of eyestrain is considered. A physician in Iowa had one of these troublesome cases which he referred to me. The patient had been to many neurologists and oculists. She was an extremely nervous patient. She had two degrees of right hyperphoria and 5 degrees of plus cyclophoria. I found that it was necessary only to operate on the nasal-central fibers of the right superior rectus muscle. The one operation made her perfectly well. That has been five years ago. About six years ago a young man with epilepsy was brought to me by his father and two brothers. The father said that the convulsions were so terrific that if the boys were not with the patient he would do himself physical harm. I detected a hyperphoria, without any cycloplegia. I operated, doing a central partial tenotomy, and that young man has not had a single convulsion from that day to this. Instead of having that dulness of mind into which he was passing very rapidly every day, he now has a very active mind.

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[8] The Borderland of Epilepsy, London, 1907, p. 77.

DR. A. A. HUBBELL, Buffalo: I think that physicians and ophthalmologists would be surprised at the number of cases they would find of Charcot's ophthalmic migraine if they would extend their inquiries a little further. I do not get more than other men with a good-sized practice, but I sometimes meet four or five a day, and if, in cases of headache, you inquire as to these scintillations, you will find them very frequent. I quite agree with Dr. Parker. I perhaps would agree with Dr. Savage. I have not gone into the etiology of this form of migraine at all. My discussion applies simply to its relation to epilepsy, and as to whether one disease may be transformed into the other. It is a disorder of the cortex of the brain—it is not the eye. The refractive errors may have something to do, indirectly, with inducing this form of migraine; but I am not sure that they are the essential cause. I have no doubt that Dr. Savage has cured these patients in this way. I have done the same many times, and many times I have not succeeded. The point I wish to make is simply that migraine is not a cortical explosion in any sense comparable with that of epilepsy; that there is no pathologic kinship.

DIFFERENTIAL DIAGNOSIS OF AFFECTIONS OF THE OPTIC NERVE.*

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The subject for consideration is the differential diagnosis of pathologic conditions of the optic nerve between chiasm and retina.

Pathologic investigation has differentiated various forms of inflammatory affection, of traumatic injury, of vascular disease, of hemorrhages and neoplasms within and around the nerve and different kinds of atrophy of the nerve fibers either primary or consequent on the previously mentioned affections. Clinical observation has shown that these conditions differ in the appearance of the nerve head and in their effect on central and peripheral vision, and that variations are not only found between different affections, but even between different cases of the same or similar affections according to location and extent of lesion. The differential diagnosis, therefore, depends in one case on the ophthalmoscopic picture, in another on characteristic changes in the field of vision; but in most cases we must rely for differential diagnosis on careful study of both the appearance of the nerve head and the function of the nerve as tested for acuity of central, peripheral and color vision, on their changes during the progress of the disease; and the facts thus elicited must be considered in connection with the previous history and habits of the patient and with such other ocular, constitutional, organic and especially nervous diseases as may be discovered.

For the purpose of our inquiry we shall divide the subject into:

(A) Those cases in which there is ophthalmoscopic evidence of inflammation in the optic disc.
(B) Those cases in which the nerve head presents the picture of atrophy.
(C) Those cases in which the disc is normal or approximately normal in appearance.

A. AFFECTIONS IN WHICH THERE IS OPHTHALMOSCOPIC EVIDENCE OF INFLAMMATION IN THE OPTIC DISC.

The recognition of inflammation of the optic disc is sometimes rendered difficult by the great variations which normal optic discs present, and particularly by the markedly hyperemic condition which has been described as pseudo-neuritis. In these cases there may be marked tortuosity of the vessels, but the nerve remains transparent, the vessel walls are normal, there is never great swelling, and we usually find marked errors of refraction, commonly hypermetropic. Continued observation may be necessary for definite diagnosis.

The presence of fine, congenital patches of connective tissue or of hyaline bodies (Drusen) should never lead to errors in diagnosis, the absence of congestion and tortuosity and in the latter condition the characteristic reflexes enable us to recognize these conditions without difficulty.

The inflammatory affections of the optic disc are commonly divided into the descending optic neuritis or neuro-retinitis and choked disc. For clinical reasons it is of great importance to distinguish them, though their differentiation is by no means always an easy matter. The typical choked disc with the narrow arteries, the full and tortuous veins and the great prominence of the optic disc usually occurs as a binocular affection, and when binocular is the expression of increased intracranial pressure, most frequently produced by tumor, symptoms of which are rarely absent. The tumor may be benign or malignant, syphilitic or tuberculous. There is at first little or no visual disturbance, the central vision is unimpaired, the outlines of the field of vision are not reduced and the enlargement of the blind spot is easily overlooked. But there is occasional or frequent obscuration of vision, when, for a moment, everything becomes black before the patient, a symptom rarely found in other conditions than those of increased intracranial pressure. It is only at a late stage when the neuritis gives way to atrophy that there is rapid and marked failure of vision.

The combination of intense neuritis with such slight disturbance of the function of vision is as important as it is characteristic when we bear in mind that ninety per cent. of tumors of the brain, at some time, produce optic neuritis. Cerebral tumor, especially when in the middle fossa, may likewise produce unilateral choked disc or even choked disc of one eye and simple neuritis or optic atrophy of the other. Unilateral choked disc is most frequently due to orbital causes or to a meningeal syphilis passing down and causing lesions of the sheath.

The causes of choked disc aside from brain tumor are too well known to be dwelt on at this time. (Cerebral abscess, meningitis, hydrocephalus, nephritis, anemia, etc.) To one only do I wish to call special attention; namely, to serous meningitis. It is probable that some of the cases in which the diagnosis of brain tumor was made and in which recovery took place should be put in this category.

CASE 1.—*In December, 1905, I saw a little girl, aged 4, who had been ill for three weeks with high temperature and pain in the ears. Convulsions had occurred. The drums were congested and were punctured without obtaining any exudate.*

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*Read in the Joint Meeting of the Section on Nervous and Mental Diseases and the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

On ophthalmoscopic examination, marked optic neuritis was found and the patient was referred to Dr. Harvey Cushing, who made a decompression operation, followed by complete disappearance of the neuritis. I have seen the child at intervals and find that she has remained perfectly well.

Case 2.—A case still more definite is that of Mary P., colored, aged 32, first seen on Feb. 20, 1906, for acute suppurative otitis media and mastoiditis on the left side. The patient did not consent to an operation until March 3. The operation was performed by Dr. S. Rosenheim and myself. There was pus under some pressure in the mastoid cells and the bone was soft. The lateral sinus was exposed for about one-half an inch; part of it was found covered by granulation tissue. The tip of the mastoid was one large cell filled with pus and granulation tissue on the posterior part of which the sinus was likewise exposed. After packing the latter cavity and withdrawing the packing there was a profuse hemorrhage from the lateral sinus, though no violence had been used. It was controlled by packing with iodoform gauze. Her temperature before the time of the operation was about 99 F., pulse 80 to 98. On the following days the temperature was irregular, reaching 103.6 F. on the fourth day after the operation, while at the same time her pulse dropped on the second day after the operation to 64, and remained below 70 for several days, except when the temperature was very high and the pulse rose to 100.

On the fifth day (temperature between 98.8 F. and 100.5 F.) abducens paralysis set in and I found mild optic neuritis. From this period on the temperature remained normal, though the pulse continued slow during the entire first week, but the neuritis increased and rapidly became a typical choked disc with hemorrhages in both eyes, more marked in the left. This condition lasted for some time, when the patient ceased coming, the wound having healed.

Seven months after the operation I found very little swelling of the discs, the veins slightly tortuous, but not very full, the arteries somewhat narrow, the color of the discs pink, and margins obscured; the condition of the left eye being more marked than that of the right eye. V. R. E., 16/30; V. L. E., 10/100. While optic neuritis is known to occur in a small number of cases of lateral sinus thrombosis, there was no evidence in this case of thrombosis, and the diagnosis of serous meningitis following injury of the softened wall of the sinus was most probable.

Spontaneous recovery from choked disc with cerebral symptoms, unless due to hemorrhage which is absorbed. or to syphilitic lesions which disappear under treatment, or in very young children whose suture lines break and thus allow expansion, is very rare.

Case 3.—Mrs. G., aged 33, married and mother of two healthy children, whom I saw in 1891, had marked papillitis in the right eye with cerebral symptoms. She recovered after several months. There was no evidence whatever of syphilis. In 1896 she had a recurrence with vertigo and vomiting which again yielded to treatment (iodid of potash). I examined this patient last year and found some retinal pigment atrophy around the disc and normal central and peripheral vision. No evidence of atrophy of the discs, no swelling and no sign of previous neuritis.

Passing on to the other variety of optic neuritis, the so-called descending neuritis, we find but very moderate swelling if at all, no fulness or tortuosity of the veins, but an exudate clouding the disc and blurring the margin and perivascular lines bordering the blood vessels. In these cases, vision rapidly drops and frequently is entirely extinguished. The cause of double descending neuritis is usually some form of meningitis. Meningitis at the base is more prone to produce the optic neuritis and especially tubercular and syphilitic basilar meningitis spreading along the sheath as a perineuritis and thus involving nerve and even retina. Epidemic cerebrospinal meningitis, according to Uhthoff, produces optic neuritis in about 16 per cent. of the cases. It may result from nephritis. When unilateral it is usually due to orbital inflammation or extension from the nasal sinuses.

The differential diagnosis of descending neuritis showing the combination of the great visual disturbance with the characteristic inflammation of the disc presents no difficulty. Both forms of neuritis, the descending as well as the choked disc commonly end in white atrophy, in post-neuritic atrophy.

B. AFFECTIONS IN WHICH THE NERVE HEAD PRESENTS THE PICTURE OF ATROPHY.

Optic atrophy is a term applied clinically to such atrophic conditions as show distinct pallor of the optic disc. They may be due to primary atrophy, as found in locomotor ataxia or secondary to injuries, to the pressure of tumors or of sclerotic blood vessels, to embolism or thrombosis of the central retinal vessels, to retinal or chorioidal atrophy, or to any form of neuritis, choked disc, descending or retrobulbar. The picture presented by the optic disc varies greatly. There may be the grayish pallor, with or without marked narrowing of the larger vessels, but with disappearance of the finer blood vessels and with sharply marked border as is usually seen in spinal atrophy. Or there may be the intensely white disc with irregular margins and perivascular lines usually seen as post neuritic atrophy. But it has been clearly shown that the variations are so great that we can not always determine from the appearance of the disc what form of atrophy it presents. And as in the case of pseudo-neuritis, so here we must also be careful not to regard every pale disc as atrophic, for pallor of the disc is at times very marked in high grades of anemia.

The visual function bears no relation to the appearance of the disc; we may find high grades of apparent atrophy with good vision, and vice versa.

Primary atrophy is with rare exception spinal atrophy. It begins at the bulbar end of the nerve, and therefore the pallor of the disc and the visual disturbance occur simultaneously. Uhthoff has defined three forms in which the field of vision is variously affected and which differ in their course and their prognosis. In the first there is diminution or loss of vision throughout the entire field, central vision is lessened and peripheral vision is restricted, though not uniformly, both for form, but especially for colors. In these cases, vision for green and then for red is lost, later for yellow and blue, thus producing a very great widening of the color blind area of the field. The progress is rapid, is hastened by mercury and the prognosis is absolutely bad.

In the second class sharply cut sector-like defects occur, but the parts preserved are normal in respect to color and form vision. The function of the parts retained may remain stationary, though it is usually lost after a time, one sector succumbing after another. This class, according to Wilbrand and Saenger, presents great similarity to that of syphilitic retrobulbar perineuritis with secondary atrophy of the disc.

The third class shows concentric contraction of the field with good central vision and good color vision in the portion preserved. Similar fields are found resulting from syphilitic affection of the intracranial portion of the optic nerve.

Wilbrand and Saenger have found that the course of the second and of the third class is very favorably influenced by the use of mercury, and they recommend its use here as emphatically as they warn against it in cases of the first class. They suggest as explanation that the differences may lie in mistaking syphilitic pseudotabes for true tabes, or the possibility of a combination of cerebral syphilis with true tabes which would likewise explain the occasional occurrence of "post-neuritic atrophy" in locomotor ataxia.

Uhthoff has shown that true primary optic atrophy never occurs in cerebral syphilis, that it is always secondary. It is, therefore, assumed that it likewise does not occur in spinal syphilis, and that the optic atrophy found in syphilitic pseudo-tabes is secondary and therefore yields to specific treatment. The difficulty of a differential diagnosis between the true tabetic primary atrophy and the secondary is very great. The latter is apt to be slow in developing, while primary atrophy, as has been stated, is observed simultaneously with the first visual disturbances. Monocular affections are likely to be syphilitic; variations in visual function more frequently occur in the syphilitic forms; the latter are apt to be complicated with other syphilitic cerebral nerve palsies; pupillary disturbances may occur in both conditions, but the Argyll-Robertson reaction points to locomotor ataxia; hemiopic defects indicate syphilis and the presence of a central scotoma practically excludes primary atrophy. The last named sign, as may be mentioned in passing, likewise helps to differentiate the secondary atrophy of alcoholic pseudo-tabes from the primary atrophy of true tabes.

Wilbrand and Saenger deny emphatically that syphilitic atrophy is ever primary and regard the latter as spinal in every case. They are in accord with Uhthoff's statement that any adult suffering with binocular primary progressive atrophy must be looked on, not only as suffering from serious ocular disease, but also from grave disease of the central nervous system.

Primary atrophy may, as is well known, precede the appearance of the other spinal symptoms by many years, and it is only the termination which may finally determine the definite diagnosis.

Case 4.—Mr. A., whom I first saw in December, 1895, for left optic nerve affection which had come on suddenly with drooping of the lid, with visions of flashes of light and a large defect in the field of vision, central vision being but slightly affected and the right eye not at all impaired. There was a definite history of luetic infection, but without secondary skin eruptions, mucous patches and other later syphilitic manifestations. Vigorous treatment with iodid of potash and mercury by inunction not only had no effect in arresting the progress of the trouble in the left eye, but did not prevent the same affection arising in the right eye six months later.

The discs at first appeared normal, and showed no atrophy and became pale only after a long period. The sight of the left eye was lost very rapidly, that of the right has shown only slow progress, so that its field is now very small and irregular, but central vision is still almost perfect. In this case, the sudden onset of symptoms, the absence of any early appearance of pallor and the slight ptosis helped to establish the diagnosis as a syphilitic lesion of the optic nerve and even though the treatment did not have the desired effect, the preservation of good central vision in one eye for twelve years and the nondevelopment of any signs of spinal or cerebral disease confirms the diagnosis.

Another case presenting very different appearances is the following:

Case 5.—A lady, first examined in July, 1890, when her eyegrounds were found normal and with weak convex cylinders her vision was perfect. She was married; her husband had definite syphilis (mucous patches, etc.). In October, 1899, she again presented herself. She had borne four children and had had one miscarriage. Her younger children were very puny at birth but thrived on small doses of calomel. Subsequently, both had hemiplegic attacks, which were favorably influenced by mercury. An older child had two attacks of paralytic chorea. But though under constant care of her physician, the patient herself never presented a single sign of syphilis. Oct. 1, 1899, she complained of failing vision and the ophthalmoscopic examination showed white discs with V. R. E., 6/12, almost, and V. L. E., 6/24, partly. There were large symmetrical defects in the upper inner quadrants of both fields. Absence of the patellar reflex and slight inequality and loss of light reaction of the pupils were soon noted.

The usual treatment was given, iodid of potash, in very large doses, mercury by inunction for a prolonged period, pilocarpin, nitroglycerin, and later for many years, large doses of strychnia sulphate. The sight of her left eye was soon lost, but the progress of the disease was stayed in the right eye. In 1902 she had lost all color perception for green and red. In 1903, the pupils were noted as equal in size and reacted to light. The patient had had attacks of vertigo and intense headache and a lesion of the mitral valve had recently been discovered.

I last examined the patient in July, 1906, when her vision had dropped to 6/22 almost, and having seen the patient recently, I learned that her vision has not changed perceptibly and that she is still taking large doses of strychnia. The diagnosis made in this case was spinal atrophy, but though eight years have passed, no signs of ataxia have developed.[1]

Among the secondary atrophies aside from the syphilitic those caused by neoplasms must be mentioned. These are usually monocular; the tumors produce ocular motor disturbances and displacements of the eyeball, or if at the chiasm produce the characteristic hemiopic defects in the fields by which they can be recognized. The secondary atrophies due to pressure of the sclerosed carotid or ophthalmic arteries should be thought of in slowly developing secondary atrophy in the aged. Atrophies following embolism or thrombosis of the central retinal artery need no special consideration at this time. The history of their onset, their unilateral character and the excessively altered vessels help to establish the diagnosis.

The atrophies following descending neuritis or choked disc are sufficiently characterized by well marked signs of the neuritis, by the perivascular lines and the connective tissue developed from the inflammatory exudate to permit of ready diagnosis, usually borne out by the previous history. The atrophy occurring in deep glaucomatous excavation of the disc presents so pathognomonic a picture that it can not be mistaken.

Secondary atrophy depending on retinal and chorioidal degeneration bear the diagnosis in their yellowish, muddy appearance; in the thread-like blood vessels and especially in the evident retinal or chorioidal lesions.

Traumatic secondary atrophies, when unaccompanied by traumatic changes in the retina or the chorioid are usually recognized by other scars and by the clinical history. One class deserves special mention. I refer to the monocular atrophies resulting from blows on the head, most commonly on the upper margin of the orbit. The blindness and secondary atrophy in these cases is due to injury of the optic nerve in the optic foramen through which the fracture passes. The blindness is usually permanent and distinct atrophy of the nerve head can be made out within four or five weeks after the injury.

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[1] This case is an interesting example of Colles' law of apparent immunity of a mother who has borne a syphilitic child. The case shows that though immune to the primary and secondary manifestations, she is not immune to the late nervous sequelæ. Since this paper was written, within the month of April, 1908, signs of tabes have set in very acutely and intensely: Ataxia loss of the patellar reflexes, lightning pains, and disturbance of the function of the bladder.

C. AFFECTIONS OF THE OPTIC NERVE WITH NORMAL OR APPROXIMATELY NORMAL DISCS.

The affections comprised within this group are the various forms of retrobulbar optic neuritis. It occurs in acute and chronic forms. The most common and best known form is the toxic, produced by tobacco and alcohol, and is characterized by a long but narrow paracentral scotoma, reaching from the blind spot of Marriotte to the point of fixation and later embracing it. Its development is very slow. The vision within the area of the scotoma is partially or completely lost. The course of the affection is usually very slow and great improvement and even complete recovery is possible. As stated above, the disc shows little change. There is usually pallor of the temporal sector. The lesion is a neuritis of the papillo-macular fibers of the orbital portion of the optic nerve, a bunch of fibers which possesses peculiar vulnerability to certain poisons. Autointoxication in diabetes may affect it in a manner similar to that just described.

In acute toxic affections resulting from quinin, salicylic acid, methyl alcohol and other substances the blood vessels of the nerve and retina show marked contraction, and there is blindness or a high degree of amblyopia, often followed by early atrophy. The effect of lead poisoning on the optic nerve is to produce a papillitis, together with marked vascular changes.

Numerous infectious diseases may produce retrobulbar neuritis in one or both eyes, with central scotoma or peripheral defects in the field of vision. Central scotoma is more commonly met with and is usually much larger than in the tobacco-alcohol form. Syphilis, rheumatism and influenza may be mentioned as the more important underlying affections. Syphilis, it is thus seen, may produce any one of the forms of optic nerve disease that we have described (except primary atrophy). As an illustration of syphilitic retrobulbar neuritis the following case may be mentioned:

Case 6.—Mr. A., aged about 45, was seen in November, 1905, with the history of recent syphilis which had not received regular treatment. His right eye, which had always been his better eye (almost emmetropic) had V. 6/30; his left eye (with myopic correction) was normal. There were fine dust-like opacities in the vitreous and on the cornea, but the ophthalmoscopic image was clear. No evidence of chorioiditis.

The right disc showed slight edema. The extent of the field of vision was normal, but there was a large absolute scotoma in the form of a vertical oval below the point of fixation extending as a relative scotoma over this point. Vigorous mercurial treatment, together with iodids and sweats, was ordered and persisted in with the result of obtaining very slow improvement of vision beginning after ten months and not reaching approximately normal vision until more than one year had passed. Since that time, the patient has normal eye-grounds and has had no further trouble.

Acute retrobulbar neuritis in one or both eyes with high degree of amblyopia due to large central scotoma, sometimes with rapid and complete loss of all light perception, is seen in women at the menopause and in young women suffering with sudden disturbances of the menstrual function. Vision is usually regained in great measure, though permanent defects in the field of vision and white optic discs are commonly left. Cases similar to these are sometimes, though indefinitely, classed as rheumatic.

An interesting group of cases of retrobulbar neuritis are those known as hereditary amblyopia, in which there is loss or great impairment of central vision usually without involvement of peripheral vision. The disease commonly attacks male members of a family in early adult life.

Besides the cases thus far mentioned, there are many others, characterized by large central scotoma, which, for want of satisfactory explanation, are commonly diagnosed as idiopathic retrobulbar neuritis. In recent years it has been shown that a number of these cases, apparently more than generally supposed, are to be attributed to inflammation extending from the sphenoidal sinus and the posterior ethmoidal cells. Birch-Hirschfeld has recently shown that this neuritis is apt to present the clinical picture of retrobulbar neuritis with central scotoma. It is further commonly characterized by being monocular and by its sudden appearance and its tendency to rapid extension of the scotoma so as to involve large parts of the field.

Another important contribution to the etiology of a large number of cases of retrobulbar neuritis has been made in the study of the bearing of multiple sclerosis to the ocular affection. It has long been known that retrobulbar optic neuritis, at times showing inflammation or atrophy of the nerve head, frequently occurs in cases of multiple sclerosis and is of great aid as a diagnostic sign; that it is often characterized by great variability in the visual defect and by the possibility of complete recovery after great loss of vision; and that central scotoma is of frequent occurrence. Fleischer has lately followed and studied the cases of retrobulbar optic neuritis observed during the last twenty-five years in Tübingen. His results show that a large number of the cases of retrobulbar neuritis subsequently developed multiple sclerosis. The interval varied from a few weeks to four, five, eight, ten, twelve and fourteen years. If these observations are confirmed it will bear seriously on the nature and prognosis of many of the so-called idiopathic and other forms of retrobulbar neuritis.

Cases are observed in which the typical central scotoma of retrobulbar neuritis is associated with well-marked inflammation of the optic disc. They belong etiologically to the same classes as those described and must be interpreted as retrobulbar neuritis with involvement of the bulbar end of the nerve.

The differential diagnosis of these affections from each other depends chiefly on the previous history and general examination of the patient. The character of the visual disturbance differentiates them from affections due to lesions behind the chiasm, the careful determination of the form and color defects of the field of vision being the main guide. The most difficult diagnosis often lies between these conditions and those of hysterical amblyopia and of simulated blindness. The difference in the fields of vision in hysterical amblyopia and retrobulbar neuritis usually serves to distinguish these affections. And for the detection of simulation the ingenuity of the examiner is often taxed to the utmost.

DISCUSSION.

Dr. William W. Graves, St. Louis: In the diagnosis of cases in which the disc is nearly or proximately normal in appearance, I believe that the point which I am going to mention may be at times of very great importance. We know that there is a certain correlation existing between direct light reflex and consensual light reflex; and this is disturbed if the optic nerve be severed or diseased anywhere between the retina and the chiasm. For instance, having a retrobulbar neuritis, or having an injury which interferes with the integrity of the optic nerve on one side, on the right side, for instance, on that side there will be sluggish to absent direct light reaction and normal consensual light reaction. In the other eye there will be sluggish to absent consensual light reaction, but a normal direct light reaction.

DR. HARRY FRIEDENWALD, Baltimore: The differential diagnosis of cases of optic nerve disease depends, not on the ophthalmoscopic examination alone, and not on the examination of the field of vision alone, but on both of these, and particularly on a very careful general examination. Without the combination of ophthalmoscopic examination and very careful tests of vision in addition to the general inquiry concerning other constitutional or organic diseases, and especially nervous diseases, we can not make any diagnosis. I want to add one word concerning the examination by the perimeter. I do not know in the whole field of ophthalmology any class of cases in which the careful and painstaking examination of the field is of so much importance and on which so much depends as in cases of diseases of the optic nerve.

A COMPARATIVE STUDY OF THE DOSAGE AND EFFECTS OF CHLORAL HYDRATE, ISOPRAL AND BROMURAL ON CATS.[*]

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I. INTRODUCTION, METHODS, SYMPTOMS AND CRITERIA.

INTRODUCTION.

In a paper on the comparative actions of chloral and isopral on different animals Impens[1] aimed to establish what he called the "toxic quotient" for these drugs, i. e., the quotient of minimal fatal dose divided by the minimal "effective" dose. He states that this factor (or margin of safety) is uniformly greater for isopral than for chloral and that isopral is, therefore, the safer drug. In analyzing these claims one is at once struck with the fact that the difference for most animals is so small that it might well fall within the limits of error. With the cat alone the difference would seem altogether too large to be explained in this manner.

The experiments published by Impens are, however, altogether too scanty to make his conclusions binding; and in affirming the dose of chloral for cats he fails entirely to describe the experiments which led him to the acceptance of the dose which he has laid down. Hatcher[2] pointed out the unreliability of Impens' conclusions. In the case of the cat particularly the few experiments which Hatcher made indicated that no such difference existed for rectal administration. This drew a rather caustic reply from Impens, in which the latter, however, did not attempt to repair the deficiencies of his first publication. This reply has been so ably discussed by Reid Hunt[3] that I shall abstain from further criticism. There remained, however, several questions of facts which were not adequately decided by either Impens' or Hatcher's work. Most prominent among these was the remarkably small margin of safety of chloral for cats, as claimed by Impens. It seemed important to determine whether this was due to faulty observation on the part of Impens, and if so, how he came to fall into so remarkable an error; or if his results were correct, it seemed important to learn the cause of this idiosyncrasy and thus to form a judgment whether the same idiosyncrasy would be apt to be present in the human subject.

The subject of isopral would scarcely have appeared to me as of sufficient importance to justify the necessary expenditure of time and material; but I deemed that these experiments would throw light on the broader questions of the value of this whole general method of judging the usefulness of hypnotics, establish a normal standard for progressive doses of chloral,[4] and outline the probable limits of error, i. e., what degree of accuracy might be expected from a given number of experiments. The data which have been published thus far are not sufficiently numerous to give any idea of the variations in the individual response of different animals of a species, and until this has been done the establishment of "ratios" is little more than guesswork.

The present series makes this very apparent. I found that there are, indeed, very considerable idiosyncrasies which evidently deceived Impens and which render his criteria of "minimal" effective and toxic doses eminently unsuitable. The elimination of these idiosyncrasies required an extension of the experiments much beyond the limits originally contemplated. The present series comprises seventy-seven experiments with chloral on fifty-seven cats and fifty experiments with isopral on forty cats. Even with this relatively large material the data are not in some particulars as definite as would be scientifically desirable, but they appeared to me as sufficient for practical purposes.

It also appeared to me that the data for the judgment of the method would be more valuable if they were gathered independently at more than one laboratory. I asked Professor Hatcher, therefore, to collaborate, or rather to investigate the questions independently. His results were communicated to me after I had practically completed my own experimental work, and I have obtained his permission to incorporate them in this paper. As will be seen, both series lead to the same conclusions.

In the meantime a new product, bromural, had appeared on the American market and I thought it interesting to test on it the general method which I had elaborated. The experiments with this last drug were intentionally less numerous, comprising twenty-three experiments on ten cats.

METHODS.

Cats were used exclusively and the drugs were administered by stomach tube. The choice of these animals was determined by the original object of the investigation, but, furthermore, these animals seem peculiarly suitable for this class of experiments. Cats are more uniform in intellectual development, more tractable and more easily kept and handled in large numbers than are dogs; and the symptoms are more expressive than would be the case, for instance, with rabbits. The gastric administration was also dictated by the original object of the investigation, but it also appears to me as intrinsically preferable to the rectal method. To secure an empty stomach, the animals were not fed on the morning of the experiment. Isopral and chloral (hydrate) were administered in solution.

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[*] Read in the Section on Pharmacology a[illegible] American Medical Association, at the Fifty [illegible] held at Chicago, June, 1908. Because of the [illegible] part of it has been omitted here. The complete article appears in the Transactions of the Section and in the author's reprints. A copy of the latter will be sent on receipt of a two-cent stamp.

[*] From the Pharmacological Laboratories of the Medical Departments of Western Reserve University and of Cornell University.

[1] Therap. Monatshefte, September, 1903.

[2] THE JOURNAL A. M. A., June 1, 1907, 1849.

[3] THE JOURNAL A. M. A., Dec. 7, 1907, 1909.

[4] In a fairly exhaustive search through the literature of chloral, I have not encountered any experiments with chloral on cats, except the bald statements of Impens.

I employed concentrations of 1 per cent. for the smaller doses and 2 per cent. for the larger. Hatcher used 3 per cent. The occurrence of vomiting, especially with the larger doses, often cut short the experiment. To circumvent this Hatcher gave at first a fraction of the dose (0.2 gm.) and the remainder in about an hour. I did not resort to this expedient. Animals that vomited were, of course, excluded in tabulating the narcotic and fatal results. We both used the same animals repeatedly.[5] This was done partly for reasons of economy, but mainly because we wished to compare the effects of both drugs on the same animals. As I shall show, this repeated use does not alter the effects, provided the animals have not lost more than 10 per cent of their weight. The latter cases are again excluded in tabulating the fatalities.

Bromural is very slightly soluble in water. The dose was weighed out and rinsed through the stomach tube with hot water. The dosage was, therefore, generally less accurate, but the experiments show that the method gives more satisfactory results than might have been anticipated.

SYMPTOMS AND CRITERIA.

My attention was fixed mainly on the narcotic effect, although other phenomena were noted incidentally. The symptoms with chloral and isopral are identical, except as to the time of their occurrence. They correspond closely with those seen in the human subject. There is apt to be more or less nausea, evidenced by depression, sneezing, coughing, retching, or vomiting. There is also apt to be more or less excitement, preceding or interrupting the hypnotic effect. In the typical cases, there is, with succeeding doses:

1. *Drowsiness.*
2. *Light natural sleep:* the animal slumbers in a natural position, and is easily and completely roused, as by a heavy step on the floor.
3. *Deep natural sleep:* the animal lies in a natural position, soundly asleep. It is roused only by rather severe stimuli, and then incompletely, appearing stupid, and dozing again very quickly. Forced to its feet, it is very clumsy and walks with a stagger. The reflexes are nearly normal.
4. *Light coma:* the animal lies extended on its side or belly, relaxed, but with some muscular tone remaining; it may make some spontaneous movements, but is generally unconscious. It responds rather weakly to pain. The reflexes are generally depressed.
5. *Deep coma:* the animal is completely relaxed and anesthetic. The reflexes disappear, the corneal reflex persisting until rather late.

The experiments performed by Professor Hatcher are those of series HA to HZ; those performed by me comprise series A to Z, AA to AY and BA to BK (see Appendix A).

2. *ANALYSIS OF THE PRINCIPAL PHENOMENA.*

In presenting the results of our experiments it would be manifestly impracticable to print the protocols in full. They are sufficiently illustrated by a few examples in Appendix B. For purposes of discussion I have compiled special tables of the results bearing on each question. These will be presented in due order, each followed by a short summary. I shall first analyze the main phenomena and follow this by the analysis of such factors as might conceivably modify the results. The doses throughout refer to grams of drug per kilogram of body weight.

I. RELATION OF THE DOSE AND MAXIMAL EFFECT.

The relevant data for these drugs are brought together in Tables 1 to 3,* the animals showing each effect being arranged in the respective columns. The conclusions are presented in Table 4.

TABLE 4.—SUMMARY OF DOSAGE AND EFFECT.

	Chloral.	Isopral.	Bromural.
Dosage producing sound natural sleep in most animals.	0.09-0.15	<0.09-.010	0.10-0.15
Dosage producing effects varying from sleep to coma	0.18-0.25	0.11-<0.18	0.25-<0.35
Dosage producing deep coma in all animals	0.30 up.	<0.18 up.	<0.45 up.
Dosage producing the lowest apparent fatality	0.15	0.11	
Dosage producing the lowest true fatality	0.35	0.25	<0.45
Dosage just fatal to most animals	0.42-0.45	0.25-0.30	0.45-0.50
(Probable mean=)	(0.44)	(0.25)	(0.45)
Largest dose survived	0.50	0.35	0.45

Difference from the figures of Impens: The conclusions as to isopral and chloral are radically different from those of Impens, as will be seen from the following table:

CHLORAL HYDRATE.			ISOPRAL.	
Dose.	Impens.	Sollmann.	Impens.	Sollmann.
Hypnotic.	0.2	0.09-0.15	0.09	0.09-0.10
Just Fatal.	0.25	0.44	0.4	0.25

The differences are perhaps explainable on the basis of different methods of treating the experimental results: I have drawn my conclusions on the basis of impartial averages from an extensive series of results; Impens appears to have drawn his conclusions from a few entirely exceptional cases.

He defines the "minimal effective dose" of a hypnotic as "the smallest possible quantity of the drug which may induce sleep" (in any animal) and asserts that this is 0.2 gm. per kg. in chloral. In reply, I have never failed to obtain sleep with 0.09 gm. or less than one-half of his minimum. Similarly, he defines the "toxic dose" as the smallest dose which ever causes death; both definitions are, of course, framed for exceptions and not for averages, and the definition for toxic dose is especially objectionable.

Accepting it, however, for the sake of argument, both his toxic doses are wrong. That for *chloral* would be nearly twice too high, if we count my animal P 111 as a chloral fatality, or 50 per cent. too low if we do not. The toxic dose for isopral he places at 0.4, but in my hands two animals out of three died with doses as low as 0.25; and if we count the late deaths against isopral, the lowest recorded fatality would be 0.11 gm.

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[5] The general table in Appendix A shows the distribution of the experiments.

*These, as well as some of the other tables, will be reproduced in the Transactions and in reprints.

Impens judges the relative safety of a drug by its "toxic quotient," which he defines as the toxic dose divided by the therapeutic dose. The larger this quotient the greater is the margin of safety. This appears perfectly logical; but it must be remembered that the toxic quotient not only retains every source of error in determining the individual doses, but it may even double them. As I have shown, a limited number of experiments may easily lead to figures which are 50 per cent. or more out of the way. Even with our extensive series the results may easily be 15 per cent. from the truth. Should the therapeutic dose be 15 per cent. too high and the toxic dose 15 per cent. too low, or vice versa, then the error in the "toxic quotient" would be exactly doubled, i. e., it would be 30 per cent.

When it is remembered that Impens apparently contented himself, at least in some cases, with an approximation of 50 per cent. in determining the therapeutic dose,[7] the differences which he reported in the toxic quotient of isopral and chloral for most animals (generally less than 33 per cent.) appear a very inadequate basis for his claims of superior safety. *The toxic quotient is of value only if the differences transcend the possible limits of error.* In the cat Impens' figures would lead one to suppose that this ideal should have been reached. He calculates the quotient for isopral as 0.40 ÷ 0.09 equals 4.4; for chloral as 0.25 ÷ 0.2 equals 1.25. As I have shown, his doses, unfortunately, are far from correct. According to my averages, the quotient would be 0.25 ÷ 0.10 equals 2.5 for isopral; and 0.44 ÷ 0.15 equals 3.0 for chloral—in other words, chloral would be the safer. As a fact, however, the difference falls within the limits of error and I would consider that the quotient is essentially the same for all three drugs.

II. COMPARISON OF CHLORAL AND ISOPRAL ON THE SAME ANIMALS.

To judge in how far the averages deduced from a series of animals might be invalidated by individual difference of susceptibility, we made several series of experiments in which both drugs were given alternately to the same animal with intervals of several days' rest. This method presents the inconvenience that only a very few doses can be tried out on each animal, but it serves effectually as a check on the methods of averages. I take the opportunity to present in Appendix B a few protocols which illustrate the methods of observations in all my experiments.

Comparing the cases with "therapeutic doses" (isopral 0.09 to 0.11) it is seen that the quotient (dose of chloral divided by dose of isopral) required to produce equivalent effects is in no instance less than 1 or greater than 2. In the animals F, Q, H, M and N, in which the greatest accuracy was reached, it ranged between 1.7 and 2. The average of these figures, 1.85, is probably correct with a limit of error of ± 10 per cent. This average shows that the figures estimated in the preceding section from experiments on different cats, namely, 1.5 to 1.8, is substantially correct. These experiments also show that, on the same cat, *the fatal dose of isopral is always smaller than the fatal dose of chloral,* i. e., the opposite of what is claimed by Impens.

III. RAPIDITY AND DURATION OF THE ACTION.

Some of the most important practical differences between the three drugs refer to the rapidity and duration of their action. To arrive at reliable conclusions these phenomena were recorded for each experiment.

Summary.—With therapeutic doses the onset and culmination of the effects and the start and completion of recovery are most rapid with isopral, nearly as rapid with bromural and markedly slower with chloral. This is in full agreement with the clinical reports. These differences are less pronounced as the doses are increased, but they persist to some extent as concerns the development of the symptoms and the first signs of improvement. The duration of the coma is shortest with bromural and nearly equal for isopral and chloral. Complete recovery from nearly fatal doses is most prompt with bromural and slowest with isopral.

With small doses, death is always acute with chloral, remote with isopral. The cause of this difference will be discussed later. With typically fatal doses, the fatalities are predominantly acute with isopral, slow with bromural and rather evenly distributed with chloral. Acute death occurs more rapidly with isopral than with chloral or bromural. Death after intervening recovery is conspicuously more common with isopral than with the other drugs, in harmony with its more severe after-effects.

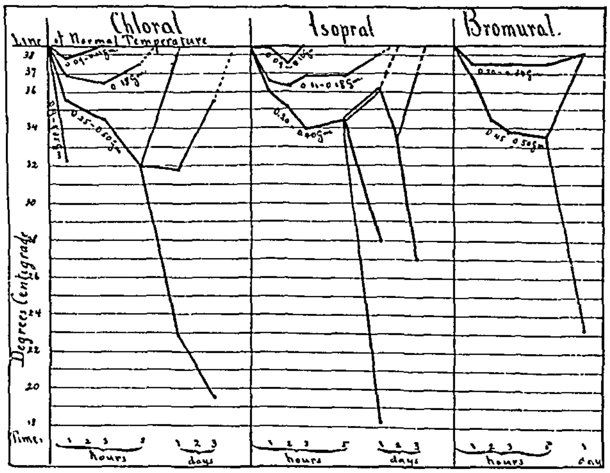

Fig. 1.

IV. EFFECT ON TEMPERATURE.

The similarity in the curves of the three drugs is striking. All tend to produce a fall of temperature and in the same degree, proportional to the degree and duration of the motor effects, rather than directly to the dose. When the muscular tone is well preserved, as in the "deep sleep," the fall is slight (0.5 C.) and transient (maximum in 1 to 2 hours, normal in 3 hours).

In the doses which produce "light coma," i. e., when there is considerable relaxation, but when the paralysis is incomplete and the reflexes are more or less preserved, the temperature falls by 2 degrees (C.) in one to two hours and returns to normal somewhat more slowly, but is generally normal on the following morning. With bromural the muscular system preserves a much better tone, and consequently the temperature in this stage falls by only 1 degree (C.). There is with all the drugs a tendency to react against the fall of temperature by shivering.

With doses which produce "deep coma" the temperature drops as much as 6 degrees (C.) in five hours with chloral, 4.5 degrees (C.) in three hours with isopral, and 6 degrees (C.) in five hours with bromural. The degree and the rate of this fall are practically independent of the dose, so long as deep coma is produced. The further course is also determined solely by the persistence of the coma, i. e., of the motor paralysis, recovery to the normal temperature coinciding with the passing of the comatose conditions. If the coma persists the temperature continues to fall, and it does so even if some degree of muscular motion is restored. The lowest point reached by this progressive fall depends mainly on the surrounding temperature, animals in this condition behaving exactly like cold-blooded animals. Some remarkable temperatures were observed which seem worthy of record.

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[7] Compare the determination of the "effective dose" of isopral for the frog, Therap. Monatsch. 1907, xvii, p. 471.

V. EFFECT ON THE RATE OF RESPIRATION.

These observations are analyzed and plotted exactly like those made on the temperature, as shown in Table 13 and Figure 2. The doses placed in the same group gave practically identical averages.

Chloral and isopral often produce a short primary increase of respiration, more often noted with the smaller doses. It is presumably due to the nausea. This primary increase was observed with chloral, 0.09 to 0.30 in 5 cases out of 17; 0.35 to 0.50 in 1 case out of 6. In isopral, 0.09 to 0.11 in 4 cases out of 9; 0.18 to 0.40 in 2 cases out of 12. The examination of the curves shows the following:

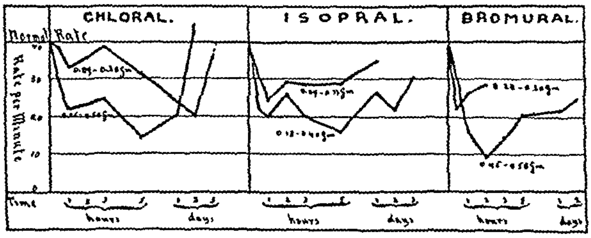

Fig. 2.

With small doses, the curves run differently. The chloral causes much less slowing on the day of administration and considerably more on the succeeding days. The lesser immediate effect I am again inclined to refer to the greater nauseating action on the first day; while the greater depression on the succeeding days coincides with the more lasting action. The curves for the larger doses show that the effects of chloral and isopral are qualitatively and quantitatively identical. Bromural produces the greatest immediate showing, which I am inclined to refer to the absence of nausea.

The mere count of the respiration can be conceded but a very limited value, as it may be compensated for by an increase in the respiratory excursions. Even were these measured, however, the comparison of the relative effects of the drugs on the respiratory center would be very difficult on account of the complicating nausea. So far as the count throws any light on the question, however, the direct effect of these drugs on the respiratory center seems to be quantitatively identical, and proportional to their general narcotic effect.

VI. THE OCCURRENCE OF NAUSEA, EMESIS AND EXCITEMENT AND THEIR INFLUENCE ON THE FATALITY.

More or less nausea and retching were present with all doses of chloral and isopral, while they were conspicuously absent with bromural. The nausea was in some cases accompanied by simple depression, in others by excitement, varying from restless movements to a maniacal condition and convulsions. The emesis generally occurred in from fifteen to thirty minutes, i.e., before the narcosis was complete. The animals retained a good appetite. The inclination to emesis and excitement varied in individual animals. The proportion of cases in which the nausea culminated in actual emesis is shown in Table 14. It will be noted that the emetic effect of isopral for the same dose (0. 18-0.40) is but one-fourth that of chloral, whereas the narcotic effect is one and a half times as great. In other words, for a given degree of narcotic action, isopral causes but a sixth of the gastric irritation of chloral. The same difference is seen when equivalent doses of the two drugs are compared on the same animal. Twelve animals vomited with chloral and not with isopral; while the reverse behavior was never observed. The table also shows that the emetic tendency may be materially lessened by giving the drugs in divided doses. Bromural, however, is vastly superior to either. Emesis was only observed once with this drug, making it doubtful whether even this was due primarily to the bromural.

The nauseant action is particularly undesirable in these drugs, since the weakened heart is not equal to the concomitant excitement. This, I believe, explains the exceptional cases in which chloral proved fatal in small doses. Each of these cases showed convulsive excitement. A very striking instance of the effect of excitement as shown in Experiment I 95.

Experiment I 95.—Cat of 2060 gm.; 0.15 gm. of chloral per kg. Rather light and restless sleep in 39 minutes. Considerable incoordination. In one hour the animal is somewhat improved. In one and one-half hours it is sleeping quietly, but awakens on snapping the fingers. Its walk is somewhat clumsy. It struggles violently when the thermometer is inserted into the rectum. During the struggle the heart stops suddenly and does not resume. Gasping respirations continue for several minutes. The thermometer registers 37.5. Nothing is found on autopsy to account for the syncope.

On the other hand, the emesis tends to save life; and from this standpoint chloral appears to be a much safer drug than isopral, i.e., the number of cases which recover without treatment from an ordinarily fatal dose is twice as favorable for chloral. This is shown in Table 15. Only the cases in which the drugs were given as a single dose are included.

TABLE 15.—Proportion of Cases Which Recovered from the Ordinarily Fatal Doses.

(The average just-fatal dose may be accepted as 0.44 for chloral and 0.25 for isopral.)

Drug and Dose.	Number of Animals Used.	Vomited and Survived.	Survived Without vomiting.	Died Without Vomiting.	Total Survived.	Proportion of Animals which Survived.
Chloral, 0.45-0.50	11	7	1	3	8	73%
Isopral, 0.25-0.35	17	2	4	11	6	35%

Nothing could illustrate more strikingly than this table the almost criminal looseness of the statement of the promoters of isopral, that it is "the safe hypnotic of the chloral group." On the contrary, *excessive doses of isopral produce death twice as frequently as the doses of chloral of corresponding narcotic effect.*

VII. EFFECT ON WEIGHT.

As has been repeatedly mentioned, animals which recover from large doses of these drugs are very apt to exhibit anorexia and marasmus, which find their expression in loss of weight. It appears to me that this loss of weight is much more rapid than when food is withheld from normal animals; but the number of controls does not warrant a definite statement on this point. The fact that this effect was so much more common and pronounced with isopral than with chloral, shows that it is not simply the result of gastric derangement, but of a metabolic disturbance: furthermore, the animals generally ate fairly well. Bromural also caused considerable loss of weight.

In analyzing the changes of weight, these were calculated as percentages of the original weight, tabulating both the total change of weight since the animal came under observation and the change occurring after the administration of the dose of the drug. The latter data alone are used in the following summaries. Considering in the first place the gross changes of weight occurring in from two to nine days, the following results were obtained (Table 16):

TABLE 16.—EFFECT ON WEIGHT.

Drug and Dose.	Number of Experiments.	Extremes of the Changes in Weight.	Mean.	Proportion of the Experiments showing:			
				Increase of Weight.	No Change of Weight.	Slight Loss of Weight (to 10%).	Severe Loss of Weight (above 10%).
Chloral.							
0.08-0.10	6	+6.1 to −4.8%	+2 5 %	50%	17%	33%	
0.15-0.40	18	+1.7 to (−25%)?	−7.75%	. . .	. . .	67%	33%
Isopral.							
0.09-0.10	12	+4.8 to −10%	−7.75%	17%	25%	58%	
0.11-0.35	11	−3.4 to −30%	−15 5%	. . .	. . .	36%	64%
Bromural.							
0.05-0.20	11	+4.0 to −9.0%	−5%	9%	18%	73%	
0.25-0.45	5	0 to − 29%	?	. . .	20%	30%	30%

It is seen that the isopral throughout causes a much more serious loss of weight than does chloral; and this holds for small as well as for large doses. Bromural appears to stand intermediate, although there are not sufficient data to form a definite judgment. The loss varies greatly with different animals and does not seem to be proportional to either the dose or the narcotic effect.

These experiments show that the loss of weight if serious, tends to progress for several weeks and requires over a month to return to the normal.

3. *RELATION OF CERTAIN FACTORS TO TOXICITY.*

In this series of experiments, the animals were used without selection, in the order in which they were brought to the laboratory, and they were re-used as needed with the sole stipulation that the narcotic effects of the preceding dose must have completely disappeared. This method of indiscriminate use involves the possibility of several theoretical sources of error; viz., the effect of the age and size of the animals, and the effects of previous doses acting either through modifications of the general resistance or of the special susceptibility. The examination of the actual data shows in how far these factors influenced the results and which of the experiments must be excluded. This exclusion has been practiced in the preceding presentation of the results. I shall now present the data on which it was based. They reveal several interesting features.

I. THE INFLUENCE OF SIZE AND AGE.

The size of cats runs sufficiently parallel to the age, so that the original weight of the animals indicates both factors. This ranged from 650 to 3,500 gms. The animals were arranged in two series, those below 1,500 gms. being classed as kittens, those above this weight as cats. Table 17 shows the number of animals of each class exhibiting a given effect for a given dose.

It will be seen that the results are fairly evenly distributed amongst the two classes of animals. Age and size, therefore, do not materially influence the action of these narcotics, at least within the limits of error. This factor therefore, does not need to be considered.

II. THE INFLUENCE OF REPEATED USE ON THE EFFECT.

A study of Table 18 shows that the previous administration of small doses of either chloral or isopral does not influence the actions of subsequent doses; the previous administration of large doses also has no noticeable effect on subsequent doses, unless there has been a material loss of weight (above 10 per cent.), when the fatality is markedly increased.

The factor of previous use could, therefore, be neglected except when the weight was markedly diminished.

III. THE INFLUENCE OF LOSS OF WEIGHT ON THE EFFECT.

Losses of weight up to 8 per cent. had no perceptible influence on the effects of non-fatal doses (to 0.18 gm. per kg.). The influence of the mortality from larger doses is shown in Table 19.

It is plainly apparent that the mortality is distinctly increased when the original weight had diminished by more than 10 per cent. With a loss of weight of less than 10 per cent., 80 per cent. of the animals recovered; when the previous loss exceeded 10 per cent., only 15 per cent. recovered. As I have previously stated, these cases were excluded in calculating the fatal doses of chloral and isopral.

TABLE 19.—INFLUENCE OF LOSS OF WEIGHT ON MORTALITY.

Loss of Weight.	0	Less than 10 %	10 to 17 %	29 to 30%
Chloral. 0.25 to 0.42.				
Fatal	2	0	2	1
Not Fatal	7	1	1	0
Isopral, 0.20 to 0.25				
Fatal	1	0	2	1
Not Fatal	3	1	0	0

The increased mortality after serious loss of weight is the more striking when it is remembered that the doses were calculated according to the weight at the time of administration; so that an emaciated animal would receive a smaller absolute dose than an animal in good condition. Since the weight of the central nerve axis diminishes but little even in advanced starvation, the dose per unit of nerve-weight would be very considerably less in a starved animal. That emaciated animals are less resistent to narcotics has already been confirmed by Mansfield.[8] His explanation was, that the body fat attracted a considerable part of the lipoid-soluble poisons and thus protected the brain. Cloetta,[9] however, has shown that the converse experiment, i. e., increase of body fat, does not offer any protection. The explanation therefore, is the less satisfactory but more probable one of lessened general resistance.

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[8] Archiv. internat. de pharm. et Ther., 1905, xv, p. 467.
[9] Ibid, 1907, xvii, p. 1.

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The determination of the true "minimal hypnotic dose" of a drug is impossible, at least on cats. The smallest doses which produce effects sufficiently definite to serve as criteria, are relatively much larger than the doses which would be used therapeutically to induce sleep.

If the dose of chloral required to produce a given effect is taken as 100, that of isopral would be about 60 (as stated by Hatcher) and that of bromural about 100. The bromural narcosis is, however, less profound. These ratios hold for all doses, small and large. The toxic quotient of the three drugs is about the same. The contrary conclusion of Impens is based on highly exceptional results. In practice, however, chloral is only half as dangerous as is isopral since excessive doses are generally expelled by vomiting, and since the subsequent very dangerous cachexia is less pronounced. On the other hand, relatively small doses of chloral do at times cause sudden death, namely when there is great excitement. The statement of the promoters that isopral is "the safe hypnotic of the chloral group" is, therefore, as previously stated, almost criminally misleading. Large doses of bromural are nearly equally as dangerous as corresponding doses of chloral, so that it cannot be called "absolutely harmless." Since it is only advised, however, for the mildest cases, the temptation to give large doses would be absent.

RAPIDITY AND DURATION OF ACTION.

The hypnotic and motor effects of therapeutic doses of isopral and bromural set in and pass off much more quickly than those of chloral. The difference grows less pronounced as the dose is increased. The cachexia after large doses is considerably more profound and lasting after isopral than after the other drugs.

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Temperature: The effect of the three drugs on temperature is quantitatively and qualitatively very similar. It is proportional to the degree and duration of the muscular paralysis, rather than to the dose. In the deep stages of coma, the heat mechanism resembles that of cold blooded animals. Very low temperatures (15.5 C.) were recorded in some cases. Animals whose temperature fell below 30 C. did not recover, even when artificial heat was supplied.

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Cachexia: Excessive doses of all three drugs cause a profound cachexia, evidenced by the persistent loss of body weight. This deleterious action is about twice as great with isopral as with chloral.

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Age, size and repeated administration do not influence the susceptibility. Emaciation, however, lowers the resistance markedly.

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The claims for the superior safety of isopral are totally unjustified. It differs from chloral mainly in the lesser dose (½ to ⅔) required to produce a given effect; in the quicker and shorter action, and in producing less gastric disturbance.

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DISCUSSION.

Prof. W. A. Puckner, Chicago: Dr. Sollmann has brought out very forcibly the need of controlling all statements made by interested persons, which statements are almost surely bound to be biased to a greater or less extent. A great deal of work of this kind should be done and must be done, and I sincerely hope that other pharmacologists will take up and investigate proprietary drugs. So far there has been a hesitancy. Nobody cares to take up a proprietary product. If one says good things about it one's comments are used as advertising matter, and if one says bad things about it one will be attacked by the owner of the drug. So there has been a tendency on the part of investigators to let alone all proprietary drugs. I think it is the duty of these men, however, to determine for us the real value of such products.

Dr. F. E. Stewart, Philadelphia: I think it would be an excellent thing if manufacturers would pass over their products to the Council before they do any advertising at all; then their claims would be founded on facts rather than fancy. Such a course would certainly do a great deal to help this work.

Dr. Torald Sollmann, Cleveland: I think this is a good suggestion. It would save a good many heart-burnings.

THE TREATMENT OF SOME FORMS OF LENS DISPLACEMENT OTHER THAN THOSE OF TRAUMATIC ORIGIN.*

L. D. BROSE, M.D.

EVANSVILLE, IND.

For a better comprehension as to the kind of cases to which reference is made in this paper I will enter on the subject by relating the following cases, classified under four groups. Group I embraces those cases of congenital lens displacement where treatment is sought, either to improve the existing vision, or because it is feared that at some future time the lens displacement may set up grave intraocular disease. Group II embraces those cases where the lens has become not only displaced but cataractous because of chronic intraocular disease. Group III includes those cases of congenital lens displacement complicated by acute glaucoma. Group IV includes those cases of displaced and cataractous lens that are the result of acute glaucoma.

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GROUP I.

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On July 19, 1904, he entered St. Mary's Hospital, where, on the following day, the left lens was needled. The operation was not followed by reaction, and he left the hospital at the expiration of one week. Dec. 24, 1904, and again April 15, 1905, the needle operation was repeated. By April 6, 1906, the lower portion of the lens had been absorbed, leaving a clear pupil and vision 15/40 with plus D. 13.00 S., and improved Nov. 24, 1906, to 15/20, with ability to read finest Snellen fluently with plus D. 15.00 S.

GROUP II.

E. S., a large and well developed man, 28 years of age, consulted me Jan. 13, 1902, with the complaint that he was losing his sight. The family consisted of father, mother and a brother, all with good sight, and he himself distinctly recalls that during school life there were seats in front for short-sighted pupils, but that his seat was always far back of these, and it was not until he was 18 years of age, and while sighting a gun, that he became aware of dimness in the right eye. Thereafter, in shooting he made use of the left eye, vision in which remained good until a few weeks before calling on me, when, after awaking one morning, he discovered it was likewise dim. He denies syphilis and does not recall an injury or previous eye disease.

Examination.—In both eyes there was downward displacement of the lens, tremulousness of the upper portion of the iris, which stood deeper than the lower portion. In the right eye, there was partial cloudiness of the lens, with vision 15/80, improved to 15/50 with minus D. 1.00 S., combined with plus D. 1.50 cylinder axis 90. In the left eye, there was a progressive cataract and vision 15/50, and not subject to improvement. By Oct. 4, 1902, there remained in the left eye only light perception while the cataract had matured, with distinct increase in the downward and forward displacement of the lens.

Jan. 29, 1903, he entered St. Mary's Hospital, where, on the following day, an extraction operation was undertaken under local anesthesia. An upward corneal section was made, followed by iridectomy. Immediately after the latter and before any other step in the operation was attempted, the four recti muscles were thrown into violent contraction, furrowing the eyeball and expelling particles of soft lens matter with considerable, very fluid, vitreous. The greater part of the lens, however, disappeared within the vitreous chamber and no effort at its recovery was attempted. The eye was bandaged and not disturbed until the third day, when the anterior chamber was found re-established and the corneal incision closed. On the seventh day, violent iridocyclitis set up, and a few days later a small hypopyon was seen on the floor of the anterior chamber

Treatment.—Morphia subcutaneously, with hot local applications for pain, and large repeated doses of salicylate of soda. Eventually, the inflammation subsided, leaving a dense membrane occupying the original pupil. Fortunately, at the point where the iris had been excised, there remained in the dense secondary membrane a small round opening, so that vision 15/160 was gained by use of plus D. 10.00 S. Nov. 20, 1905, the sight in the right eye having sunk to the counting of fingers at two feet, and notwithstanding our poor success with the left eye and our telling him that the same unfavorable conditions existed in this eye as had existed in the other, so that the percentage of failure was necessarily greater than after ordinary cataract operation, he requested that I undertake an operation on it for sight restoration. This we did Jan. 3, 1907, making a small discission, albeit the patient was 33 years of age.

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Case 3.—J. W., the 43-year-old brother of the two preceding patients, consulted me May 28, 1898. He stated that about two years ago, the right eye pained him for a time and then in a day or two the sight, which had always been defective, became much more so.

Examination.—The transparent lens was seen occupying the floor of the posterior chamber, the iris below the pupil was pushed forward, while above it stood deeper and wobbled with every movement of the eyeball. The cornea and vitreous contained opacities, while vision in the eye was reduced to the counting of fingers at seven feet. By depressing the head and placing plus D. 10.00 S. in front of the eye he saw 15/200. In the left eye the lens was displaced upward and outward, and he had vision 15/50, improved to 15/30 with minus 0.50 cylinder, axis 180.

On Nov. 24, 1900, he became aware that he was rapidly losing sight in the left eye and that he recognized the faces of those about him with difficulty. By the following day the eye pained him so violently that he had attacks of vomiting. I found the eye intensely injected, pupil dilated; the lens crowding the iris against the posterior surface of the cornea with great increase of intraocular tension. He still counted fingers with the eye at eight feet. Patient was forthwith sent to St. Mary's Hospital, where the anterior chamber was opened with a v. Graefe knife, and an iridectomy made. The operation was accomplished without wounding the lens or its capsule. After the second day, eserin was regularly instilled into the eye. Uninterrupted healing followed, with retraction of the lens into the lower part of the hyaloid fossa, and the recovery of vision 15/30 by the help of plus D. 10.00 S.

GROUP IV.

W. S., colored, 61 years of age, was admitted by Surgeon B. W. Brown to the U. S. Marine Hospital at this port, because of an attack of severe inflammation in the right eye, which had been treated without relief by a general practitioner some ten days, presumably for iritis. Surgeon Brown made the diagnosis of glaucoma and asked that I verify its correctness. I found the patient suffering great pain with tension in the eye greatly increased, and even light perception extinguished. An iridectomy forthwith executed relieved the pain, but did not restore sight.

Jan. 10, 1905, the left eye became hard and painful, and I was again invited to see the patient and do an iridectomy for glaucoma. This not only relieved his pain but restored sight.

Dec. 18, 1905, he again applied to the hospital because of failure of sight and was admitted by Surgeon J. B. Stoner, who in the interim had assumed command at this port, and it was through the kindness of Surgeon Stoner that I was again permitted to see the patient. I found the lens cataractous and slightly displaced downward and forward.

In October, 1906, the cataract having matured, I undertook its extraction. Notwithstanding a general atheromatous condition of the blood vessels and an irregular heart, we were obliged to operate under general anesthesia, because the patient was so excitable and nervous that mere contact of the hand with his face called forth violent starting up and excitation. On completion of the corneal section, made upward, the vitreous at once prolapsed into the wound so that the lens was extracted by aid of the Reisinger double hook. Uninterrupted healing followed, and, while there had been loss of considerable vitreous fluid, vision 15/50 resulted with plus D. 8.00 S., combined with plus D. 3.00 cylinder, axis 40.

In the treatment of cases embraced under Group I we have to consider, first, the amount of vision obtainable by means of correcting lenses and if it suffices for the person's calling in life. This being impossible of accomplishment, we may next consider operative interference, which may be iridectomy, discission or extraction. The age of the patient, the degree of displacement, the size of the lens and the amount of vision obtainable, either with or without correcting lenses, after complete mydriasis, enables us to decide for or against iridectomy.

Since congenital lens displacement is almost invariably upward, or upward and either to the nasal or temporal side, it follows that the point of election for iris excision would be below; hence, the possibility of the lens at some future time undergoing secondary downward displacement, either through elongation of its suspensory ligament or solution of its fibers must not be overlooked. Were this to take place, the benefit derived through the iridectomy would, for the greater part, be lost.

The family history of the forbears, as illustrated in Group III, may disclose this tendency, and I can not too strongly urge that it be carefully inquired into before the choice of iridectomy is finally made. Discission is proper when the patient is under 25 years of age and finds his vision insufficient for his needs. However, I have had the experience that discission was technically impossible of accomplishment, because the lens was so movable that it gave way under the needle without our being able to open its capsule. Extraction is naturally resorted to when it has been decided that operative interference is in place and that neither iridectomy nor discission is the thing to do. It is especially to be practiced in patients over 35 years of age.

Group II embraces a class of patients where the displaced lens is opaque and complicated by pathologic intraocular changes, so that in the choice of operative measures we must elect to do either discission or extraction. After the age of 25 my preference is for extraction, preceded by preliminary iridectomy. If the result is unsatisfactory and I am satisfied that the lens is capable of absorption through needling, I should elect to do this on the second eye rather than to extract. Before the age of 25 years, and provided the tendency to excitation of active intraocular inflammation is not too great, one may prefer the needle operation. A word of caution: Do not attempt to better a fair result through division of secondary membranous cataract when the vitreous contains opacities that in all likelihood will be increased thereby. The obtainable vision in this group will often leave much to be desired, and we must exercise care at the outset and not lead the patient to expect the impossible.

For the cases embraced under Group III, either iridectomy alone, or combined with extraction, must be considered. The position of the dislocated lens, whether it will likely be retracted again into the hyaloid fossa, whether one has wounded the lens or its capsule during the performance of the iridectomy, and whether the lens was previously, in part, opaque or not, must serve in deciding which operation it is best to make.

For the cases in Group IV, only extraction can be thought of in the restoration of sight, and since there is the added danger of the extraction being complicated by intraocular hemorrhage, the prognosis at the outset must be a guarded one. Preliminary iridectomy, if one has not already been made, is to be recommended, and if the intraocular tension is still suspiciously high, sclerotomy may be done ere attempting extraction of the cataractous lens.

DISCUSSION.

Dr. J. L. Thompson, Indianapolis: In all the cases which I have seen the displacement has been upward and outward, directly outward, or downward and outward. In not a few the lens would swing outward and backward like a door on its hinges. All of these patients were myopic. In two of them (cousins), the lenses were subsequently displaced downward, when the myopia gave place to a hyperopia equal to that found after an extraction for cataract.

Clinical Notes

FLEAS ON RODENTS AND MEN ON THE PACIFIC COAST.

WILLIAM B. WHERRY, M.D.
Bacteriologist to the San Francisco Board of Health.
SAN FRANCISCO.

I am unaware that any flea determinations made on the Pacific Coast have been published where they would be accessible to the medical profession generally. Another reason for publishing this note is the importance of recording the seasonal prevalence of fleas occurring on rats and men in a focus where plague exists.

During the months of August to November, 1907, when acute plague was present in greatest degree, I collected about a thousand fleas from rats and men and sent them to Prof. Carl F. Baker, Para, Brazil, who is recognized as the greatest authority on American *Siphonaptera*. He will report on these later.

In October, 1907, Mr. M. B. Mitzmain[1] published a preliminary note on rat fleas, collected in San Francisco, Oakland and Pt. Richmond, with the following determinations:

Ceratophyllus fasciatus (Bosc.) 32 females, 31 males.
Ctenopsyllus musculi (Duges) Baker, 8 females, 4 males.
Pulex pallidus (Tsch.) 10 females, 4 males.
Ctenocephalus canis (Curtis) Baker, 12 females, 5 males.
Pulex irritans (Linn) 2 females, 2 males.

I wish to add the following determinations, kindly made for me by Mr. R. W. Doane, under the direction of Prof. V. L. Kellog, at Leland Stanford Junior University:

Date.	Host.	Flea.	Females.	Males.
Nov. 1907-Feb. 1908.	On Mus decumanus.	Loemopsylla cheopis (Roth. 1903.)[2]	23	19
	On Mus decumanus.	Ceratophyllus fasciatus.	81	16
	On Mus decumanus.	Ctenocephalus canis.	2	
	On Mus musculus.	Ctenopsyllus musculi.	1	5
Oct. 1907-Feb. 1908.	On man, beds and bedding.	Pulex irritans.	210	124
		Ctenocephalus canis.	1	1
		Ceratophyllus sp. (?)		2

The fleas from human beings were collected from themselves by medical inspectors visiting plague-infected houses; most of them by a laboratory assistant, who lived in the worst infected district, and by nurses at the plague isolation hospital. It will be noted that in this series only two specimens of an undetermined species of *Ceratophyllus* were found on human beings.

During August and until December, 1907, fleas could be found with comparative ease on rats brought in for bacteriologic examination. Most of these rats had been drowned and soaked in kerosin or some disinfecting solution. Any percentage of infestation based on such determinations was obviously so erroneous that it was not attempted. It may be of interest, however, to know that during September, 1907, as many as 181 fleas were collected from two rats, which were found dead. The markedly greater infestation of particular rats was not only noted at this time when plague was epidemic, but later in February, 1908, in the "off season," when as many as 75 fleas were collected from a rat, though at this time there was a very noticeable reduction in the number of human and rat fleas.

During May, 1908, while temporarily acting as assistant surgeon U. S. Public Health and Marine-Hospital Service, under the direction of Dr. J. D. Long, in charge of the situation at Oakland, I started estimating the percentage of rat infestation at the very beginning of the true flea breeding season, taking all the precautions observed by the last Indian Commission to prevent the escape of the fleas. The figures of these estimations will be forwarded to the Surgeon General, but I might state that during the month of May less than one flea to each rat was found and that by far the most prevalent species was *Ceratophyllus fasciatus*.

It may be appreciated by those who have not seen the reports of the last Indian Commission, if it is stated here that most of their successful experiments in the transmission of plague were conducted with *Loemopsylla cheopis;* two experiments with *Ceratophyllus fasciatus* were also successful. All of the twenty-seven experiments with *Pulex felis*, the cat flea, failed. Only three out of 37 experiments with the human flea, *Pulex irritans,* were successful. However, this low percentage was explained by the fact that human fleas do not thrive well on rats and guinea-pigs.

I am indebted to Drs. W. I. Terry and Agnes Walker and Miss K. C. Wynn for assistance in the collections of fleas.

936 Lake Street.

LONG LACTATION.

DOUGLAS H. STEWART, M.D.
NEW YORK.

This case is reported because it is unusual and curious and may be of interest to the statistician:

Mrs. H. was delivered of a girl in February, 1902. The child is now living and of average size, weight and strength. The mother's right breast is still secreting milk, six years, four months and some days after delivery. There is no history of pregnancy save as above, but plastic and retro-flexion operations have been performed since the confinement. The quality of the milk seems to correspond with that usually found two months after ordinary labor. The quantity is small, yet two teaspoonfuls are easily obtained at a milking.

The mother's statement that the secretion has been constant throughout the whole period is borne out by female relatives, who have been assuring her all along that the state of affairs was unnatural and must, therefore, be wrong. Finally, as the breast was a little tender, she consulted me.

The breast is small and has some enlarged milk ducts; otherwise it does not seem abnormal save in milk-formation. The child was not nursed, the reason assigned being that the mother did not have enough milk. Attempts to get the child to the breasts were not continued because of short nipples.

Bimanual examination reveals no unusual conditions of uterus or appendages.

128 West Eighty-sixth Street.

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[1] Monthly Bull., California State Board of Health, 1907, iii, 38.

[2] In a Revision of the Non Combed Eyed Siphonaptera Jordan and Rothschild place [illegible] ermed *Pulex Cheopis* (Roth.) in the new ge[illegible] fleas described above by Mitzmain as *Pulex* [illegible] d probably be counted as *L. cheopis*. Jour. [illegible] asitology, Supplement No 1.)

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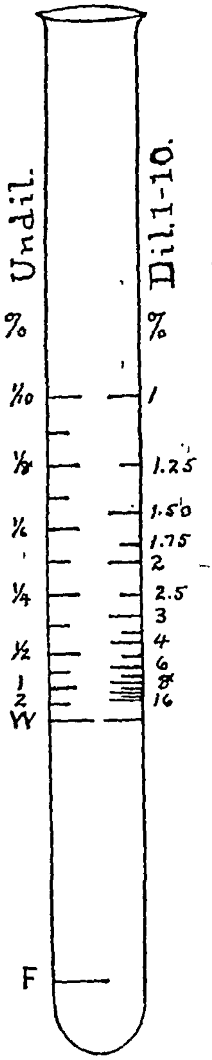
HARRISBURG, PA.

The idea of this saccharometer was suggested by the following passage from Tyson's "Practice of Medicine":

> *Fehling's solution is so composed that if an equal volume is* exactly reduced by an equal volume of urine, that urine contains ½ of 1 per cent. of glucose; if by half bulk, 1 per cent.; if twice the bulk, ¼ per cent., and so on. Should the urine contain more than 1 per cent. of sugar, it should be diluted one to *ten and the result multiplied by ten.*



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After making a number of quantitative tests for glucose by Fehling's clinical method, while resident physician at the Germantown Hospital, I found that I could tell with some degree of accuracy the percentage of glucose in a specimen merely by the depth of the solution in the test-tube when the reaction occurred, for in making the tests I used 5 c.c. of a mixture of one part Fehling's solution and four parts water, the diluted Fehling's solution, therefore, being of the same depth at the beginning of each test.

Because of this fact, together with the suggestion offered by the above passage, it occurred to me that were a test-tube marked at the depths of 6, 7, 8, 9 and 10 c.c., 5 c.c. of the diluted Fehling's solution (containing 1 c.c. of the undiluted solution) being introduced and the sugar test performed in the usual manner, the marks would indicate 1/2, 1/4, 1/6, 1/8 and 1/10 per cent. of glucose respectively, the reading being taken from the surface of the solution when the reaction occurred.

For example, if when the reaction occurred the surface of the solution stood at the 7 c.c. mark, that is, if 2 c.c. of urine had been required, that urine would have contained 1/4 per cent. of glucose. If, however, the urine contained more than 1/2 per cent. of glucose, i. e., if when the reaction occurred the surface of the solution was below the 6 c.c. mark, the urine must needs be diluted with nine parts of water, the test being repeated with the diluted urine and the result multiplied by 10. Thus if the reaction occurred when the surface of the solution stood at the 9 c.c. mark, that is, if 4 c.c. of the dilute urine had been required, the urine would have contained 1.25 per cent. of glucose, as shown by multiplying 1/8 by 10.

The completed saccharometer, as shown by the cut, is graduated in two columns, one for urine containing less than 1 per cent. of glucose, which is used undiluted; the other for urine containing over 1 per cent., which must be diluted. The mark "F" is placed at the depth of 1 c.c. and the mark "W" at 5 c.c.

The column marked "Undil." is graduated according to the above description. In the column marked "Dil. 1-10" the mark "1%" is placed at the depth of 10 c.c. or 5 c.c. above "W," as 5 c.c. of the diluted urine contains 0.5 c.c. of the undiluted. The mark "2%" is midway between this point and "W," or opposite the 1/5 per cent. mark of the other column, and so on. It will be seen that by multiplying any number in the "Undil." column by 10 it will give the *number at the corresponding level in the other column.* For instance, 2.5 per cent. is opposite 1/4 per cent., 5 per cent. is opposite 1/2 per cent., and so on.

The results of the tests by this instrument are found to correspond to the results obtained by the polariscope, by Einhorn's saccharometer and by Robert's differential density method. The apparatus simplifies the technic of the quantitative test with Fehling's solution by eliminating the necessity of accurately measuring the amount of urine added while performing the test and doing away with any subsequent calculation, for by the graduated scale, when the characteristic reaction occurs, the percentage of sugar may at once be observed.

The test is carried out by filling the saccharometer to point "F" with Fehling's solution and adding water to point "W." This solution is boiled, and if no precipitate appears the test is carried on in a manner similar to the qualitative test, a few drops of the suspected urine being added at a time, boiling and shaking after each addition.

In case there is more than 1 per cent. of sugar the urine may be diluted by filling the saccharometer to the 1/8 per cent. mark with water and adding the urine until the 1/10 per cent. mark is reached. *The diluted urine is then poured into a suitable vessel and the test* carried on as before, reading the per cent. of sugar from the scale marked "Dil. 1-10."

Fortunately the urine in most cases of glycosuria contains more than 1 per cent. of glucose, for the test is much more accurate with the diluted urine than with the undiluted.

To procure greater accuracy in making the test 1 c.c. of Fehling's solution may be placed in the saccharometer by a 1 c.c. pipette instead of pouring in the solution to mark "F," or 0.5 c.c. of Fehling's solution No. 1 and 0.5 c.c. of Fehling's solution No. 2 may be separately introduced into the saccharometer by a graduated 1 c.c. pipette.

For convenience in the laboratory where many tests for glucose are made daily a mixture of one part of Fehling's solution to four parts of water may be made up for the day's use. In making the routine sugar analyses the saccharometer may be filled to "W" with this diluted Fehling's solution and the test carried on similarly to the qualitative test when, if sugar be found, the amount is immediately known.

1705 North Front Street.

PAINLESS TONSILLECTOMY AND ADENECTOMY WITH QUININ ANESTHESIA.

EDWARD J. BROWN, M.D.
MINNEAPOLIS.

Some months ago[1] THE JOURNAL reviewed the experimental work of H. Thibault with infiltration anesthesia by quinin. It at once struck me that this might be the ideal anesthetic for tonsillectomy. I have used quinin hydrochlorid in 3 per cent. solution during the succeeding months in all my tonsillectomies in older children and adults with very great satisfaction. In one case I painted the greatly enlarged right tonsil of a 12-year-old boy once with 1 per cent. holocain and then injected into the pillars and deep parts of the tonsil not to exceed 70 minims of the quinin solution and 10 minims of a 1 to 1,000 adrenalin solution. The pillars were separated, the tonsil drawn forcibly through the No. 10 wire loop of a Peters' snare and cleanly removed in its capsule. Practically no blood was lost and the boy at once exclaimed: "It did not hurt a bit."

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In a few cases of submucous nasal septum operations I have injected the quinin solution freely and found that the operation was rendered entirely painless with the use of very much less cocain or holocain.

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I believe that quinin in solution offers a means of local infiltration anesthesia which is ideal in safety, efficiency, convenience and cheapness.

39 Syndicate Block.

COAL-TAR IN CHRONIC ECZEMA.

R. L. SUTTON, M.D.
KANSAS CITY, MO.

I desire to call attention to the value and efficiency of common coal-tar in the treatment of certain types of eczema. This substance, a dark, thick, semi-liquid, is obtained as a product of the dry distillation of bituminous coal and contains a number of active chemicals, carbolic acid and creosote being among the most important. It can be purchased from any of the large roofing or paving companies for about 25 cents a gallon.

It is particularly indicated in the chronic, recurrent form of the disease in which the skin is dry, cracked and scaly, with considerable papillary hypertrophy and but slight thickening of the outer layers of the epidermis. Eruptions of such a type are frequently seen about the knuckles, especially as a sequel to repeated attacks of an occupation dermatitis, or are at times manifested without apparent cause on the shins, forearms or other parts of the body. In these cases I have found this remedy much superior to salicylic acid and like keratolytics.

It is applied, undiluted, on smooth pieces of cotton cloth, these being fixed in place by means of bandages or adhesive plaster. At the end of twenty-four to seventy-two hours there is a resulting exfoliation of the superficial strata of the corneum and the outer scales can be easily rubbed off. If the reaction is very marked, an infrequent occurrence, the inflammation can be readily subdued by means of plain or carbolized zinc oil (carbolic acid 5.0, zinc oxid 55.0, olive oil 40.0). The application of the tar can then be repeated if necessary.

It can hardly be possible that so common a substance possessing such valuable therapeutic properties has never before been employed in dermatology. If it has I have been unable to find any record of the fact. At any rate, it is of sufficient worth and reliability to merit a permanent place in the therapy of one of the most troublesome of all skin affections.

Therapeutics

THE LENHARTZ TREATMENT OF GASTRIC ULCER.

Dr. Samuel W. Lambert, New York (*American Journal of the Medical Sciences*, January, 1908), describes this treatment and believes that it is an advance in the therapy of this disease. Lenhartz published the results of his treatment in January, 1904, but the treatment did not at first receive the attention that it deserved.

Instead of a starvation period with rectal alimentation, Lenhartz's treatment aims to furnish more nutrition to the patient and improve the general condition and thus favor the healing of the ulcer. It also aims "to prevent distention of the stomach by a limitation of the size of each portion of food taken and of the amount of fluids taken and by the use of ice applications externally." And lastly it aims "to prevent the action of the excessive hydrochloric acid on the ulcer by combining it with food albumin and by the use of bismuth subnitrate internally." These objects are accomplished as follows: By giving the patient nourishment every hour, and this nourishment concentrated and rich in albumin so that "the acid of the gastric juice will be rapidly combined with the food proteid." The food should be slowly and completely masticated, and this is best accomplished by feeding the patient "in teaspoonful amounts and by never allowing him to feed himself during the first two weeks of his treatment." Three or four weeks' rest in bed ordinarily must be insisted on. When there is hemorrhage an ice bag to the epigastrium is recommended, and bismuth subnitrate internally. Iron should be given later for the subsequent anemia.

"The food given should be fresh milk, iced; raw eggs (the whole egg is beaten up and iced). Both the milk and the egg are prepared in covered glass tumblers, surrounded by cracked ice, and kept at the bedside. The feeding spoon is also kept iced in the same manner." If the patient prefers, Lambert allows a mixing of the eggs and milk and feeding the mixture instead of the usual alternation as advised by Lenhartz. After the third day, granulated sugar is added to the eggs. On the sixth day "raw scraped beef, boiled rice and zwieback prepared in the usual manner" are given. Lambert substitutes cooked, chopped chicken for the raw ham in the treatment of Lenhartz. Finally butter is added to the diet. After the tenth day Lambert allows a broiled chop, beefsteak, or chicken as a substitute for the raw beef. Later ice cream is added and the zwieback is changed to toasted bread, and other cereals take the place of rice. For the first ten days of the treatment the food is given hourly from 7 in the morning until

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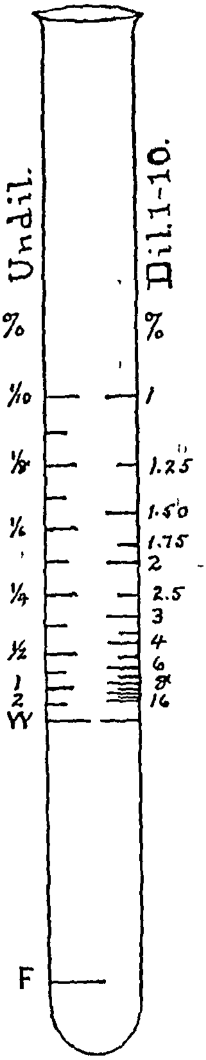

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R. L. SUTTON, M.D.
KANSAS CITY, MO.

I desire to call attention to the value and efficiency of common coal-tar in the treatment of certain types of eczema. This substance, a dark, thick, semi-liquid, is obtained as a product of the dry distillation of bituminous coal and contains a number of active chemicals, carbolic acid and creosote being among the most important. It can be purchased from any of the large roofing or paving companies for about 25 cents a gallon.

It is particularly indicated in the chronic, recurrent form of the disease in which the skin is dry, cracked and scaly, with considerable papillary hypertrophy and but slight thickening of the outer layers of the epidermis. Eruptions of such a type are frequently seen about the knuckles, especially as a sequel to repeated attacks of an occupation dermatitis, or are at times manifested without apparent cause on the shins, forearms or other parts of the body. In these cases I have found this remedy much superior to salicylic acid and like keratolytics.

It is applied, undiluted, on smooth pieces of cotton cloth, these being fixed in place by means of bandages or adhesive plaster. At the end of twenty-four to seventy-two hours there is a resulting exfoliation of the superficial strata of the corneum and the outer scales can be easily rubbed off. If the reaction is very marked, an infrequent occurrence, the inflammation can be readily subdued by means of plain or carbolized zinc oil (carbolic acid 5.0, zinc oxid 55.0, olive oil 40.0). The application of the tar can then be repeated if necessary.

It can hardly be possible that so common a substance possessing such valuable therapeutic properties has never before been employed in dermatology. If it has I have been unable to find any record of the fact. At any rate, it is of sufficient worth and reliability to merit a permanent place in the therapy of one of the most troublesome of all skin affections.

Therapeutics

THE LENHARTZ TREATMENT OF GASTRIC ULCER.

Dr. Samuel W. Lambert, New York (*American Journal of the Medical Sciences*, January, 1908), describes this treatment and believes that it is an advance in the therapy of this disease. Lenhartz published the results of his treatment in January, 1904, but the treatment did not at first receive the attention that it deserved.

Instead of a starvation period with rectal alimentation, Lenhartz's treatment aims to furnish more nutrition to the patient and improve the general condition and thus favor the healing of the ulcer. It also aims "to prevent distention of the stomach by a limitation of the size of each portion of food taken and of the amount of fluids taken and by the use of ice applications externally." And lastly it aims "to prevent the action of the excessive hydrochloric acid on the ulcer by combining it with food albumin and by the use of bismuth subnitrate internally." These objects are accomplished as follows: By giving the patient nourishment every hour, and this nourishment concentrated and rich in albumin so that "the acid of the gastric juice will be rapidly combined with the food proteid." The food should be slowly and completely masticated, and this is best accomplished by feeding the patient "in teaspoonful amounts and by never allowing him to feed himself during the first two weeks of his treatment." Three or four weeks' rest in bed ordinarily must be insisted on. When there is hemorrhage an ice bag to the epigastrium is recommended, and bismuth subnitrate internally. Iron should be given later for the subsequent anemia.

"The food given should be fresh milk, iced; raw eggs (the whole egg is beaten up and iced). Both the milk and the egg are prepared in covered glass tumblers, surrounded by cracked ice, and kept at the bedside. The feeding spoon is also kept iced in the same manner." If the patient prefers, Lambert allows a mixing of the eggs and milk and feeding the mixture instead of the usual alternation as advised by Lenhartz. After the third day, granulated sugar is added to the eggs. On the sixth day "raw scraped beef, boiled rice and zwieback prepared in the usual manner" are given. Lambert substitutes cooked, chopped chicken for the raw ham in the treatment of Lenhartz. Finally butter is added to the diet. After the tenth day Lambert allows a broiled chop, beefsteak, or chicken as a substitute for the raw beef. Later ice cream is added and the zwieback is changed to toasted bread, and other cereals take the place of rice. For the first ten days of the treatment the food is given hourly from 7 in the morning until

9 at night. Lambert found advantage in the Lenhartz routine feeding, though, of course, not so long continued, in several patients with hyperchlorhydria who did not have peptic ulcer.

From the recorded experiences Lambert's conclusions seem justified, viz., that while the Lenhartz treatment does not always perfect a cure and should not take the place of surgery when dangerous hemorrhage has occurred or an ulcer is recurrent, it seems to cure a patient more pleasantly than the starvation method; the patients are in better condition after the treatment, as they are really built up by it; there is less need for morphin; there is less vomiting, and apparently less hemorrhage.

SNAKE POISONING IN THE UNITED STATES.

Dr. Prentiss Willson, Washington, D. C., in the *Archives of Internal Medicine*, June, 1908, gives the results of his study and analysis of 740 cases of snake poisoning in this country. The article is complete and should be carefully read, but many of the valuable conclusions arrived at and the sensible interpretation of conditions and the proper management of the poisoning may well be described here.

Snakes may be divided into two large classes, the colubrine and the viperine, the former class being, with few exceptions, absolutely harmless, and in the United States but two members of this colubrine class are venomous or dangerous to man. These are the so-called coral snakes. The viperine snakes are divided into two families, the true vipers and the pit-vipers, all of which are venomous. It is the pit-vipers only, however, that are found in the Western Hemisphere, and they have been so named from "the presence of a pit or fossa at the side of the face below and between the nostril and the eye." New England is almost free from venomous snakes, though the rattlesnakes, varying in species in different parts of the country, may be found all over the United States. The copperhead snake is found in the middle states and the southern states, while the coral snake is found in the southern states and in the southwest. "The water moccasin, sometimes called the cottonmouth, or branch moccasin, is found only in the southern states."

Willson states that "all the pit-vipers, rattlesnakes, copperhead, and water moccasin correspond closely to the popular ideas concerning the general appearance of the poisonous snakes. The head is broad and triangular, and sharply differentiated from the neck. The body is thick and heavy in comparison with its length, and the tail is short and blunt. The three features characteristic of all the pit-vipers and of no other American species, the detection of any one of which establishes beyond all doubt the venomous nature of any given snake are: First, the presence in the anterior portion of the upper jaw of two hollow erectile fangs; second, the pit; and, third, the presence on the ventral surface of the tail of scales undivided in the median line." "In identifying the coral snakes the main dependence must be placed on the presence of the fangs and on the peculiar and gaudy coloring." The importance of immediately deciding that a snake that has bitten a human being is venomous is, of course, understood. When, however, the snake has been killed and perhaps crushed, the difficulty of such decision is increased, and, therefore, the detailed signs above described become important.

Snake bites are becoming more and more infrequent, especially in the settled portions of the country, and the rattlesnake especially is being slowly but surely exterminated. The poisonous venom from the pit-viper causes a profound fall in blood pressure, which is undoubtedly the cause of death. The rattlesnake venom causes a decided fall in blood pressure associated with dilation and congestion of the entire portal system, this resulting in a complete failure of the circulation. The circulatory failure from these poisons is attributed to the depression of the vasomotor center in the medulla. Multiple hemorrhages may occur from snake venoms "due to their disintegrating action on the endothelium of the blood vessels."

The symptoms of snake poisoning are both constitutional and local, and the constitutional, as just described, are largely those of prostration. The rapidity with which the general symptoms occur varies, but they are usually in evidence less than fifteen minutes. During the preliminary stage, of course, the signs of nervous shock and fear are in evidence. Dizziness, muscular debility, especially of the legs, and finally collapse, if much poison has been absorbed, rapidly occur. "The respiration may be either rapid or shallow, or slow and stertorous." The pulse is of low tension, rapid and feeble, and the temperature subnormal. The skin is cold and clammy from perspiration. "Nausea is usually present, and vomiting is of frequent occurrence." Voluntary motion is more or less completely absent, and the mind may become clouded, though at times it remains remarkably clear. Rarely active delirium may be present at this stage of the poisoning. Coma is rare, except as a terminal event in fatal cases. "Involuntary evacuations of the rectum and bladder may occur."

Local symptoms are always present in cases of crotalin (viperine) poisoning, even when constitutional disturbances are absent. Besides the characteristic appearance of the snake bite, viz., "two (occasionally only one) punctured wounds situated in the center of a rapidly-spreading tumefaction," there are soon the usual evidences "of a rapidly-spreading and inflammatory process of severe grade, with markedly hemorrhagic and necrotic tendencies."

Any subsequent feverish process is probably due to the septic condition of the wound, or there might be a short reactionary rise of temperature after recovery from a collapse. The above symptoms occur from the bite of the crotalin series or the poisonous members of the viperine class, viz., the rattlesnakes, copperheads and water moccasins. Poisoning in this country from the small number of colubrine snakes which are poisonous, viz., the coral snakes, occurs so rarely that the symptoms can not be carefully studied. The bites from these coral snakes cause "profound prostration, frequently terminating fatally, probably from paralysis of the respiratory center, and with a characteristic absence of local symptoms."

The specific infection starting from the local inflammation from crotalin poisoning is the serious complication of such a snake bite, if the immediate poisoning does not prove fatal. The recovery from the immediate constitutional symptoms varies "from a few hours to two or three days," and the story then becomes one of septic infection or the healing of a poisoned wound.

The prognosis, of course, "varies with the amount and toxic quality of the venom injected, with the location of the bite and with the age and sex of the patient. The mortality from the coral snake bites, which in this country, as above stated, are rare, is very high and seems to be more than 50 per cent. The death rate in the United States from snake bite is very small, and 99 per cent. of such deaths are due to the crotalin snakes, or pit-vipers. The probable mortality in this country from snake bite is 10 per cent., and probably acute poisoning from alcohol and later septic infection are responsible for a considerable portion of this percentage. Bites on the head and trunk are much more dangerous than on the extremities, and the mortality in children under 10 years of age is double that in adults.

While the majority of patients recover from the bite without any treatment for the reason that the amount of venom injected is not a fatal dose, still, as this amount can never be determined, active treatment should be given in every instance. The local and general treatment may be discussed separately, but the local treatment is of primary and overwhelming importance. There can be no doubt that the main therapeutic indication is the prevention of the systemic absorption of a fatal dose of venom from the amount, be it large or small, contained in the tissues immediately around the wound, and if this can not be met the outlook for the patient, no matter what line of general treatment is employed, becomes exceedingly grave. The limitation and retardation of absorption, by ligatures and other means, and the removal or destruction of the injected venom, are thus the objects of all local treatment. For these purposes local freezing mixtures or ligatures have been used, and Willson believes that the former, as exemplified perhaps by ethyl chlorid spray, is of little value, and that ligatures where the part can be ligated should be the treatment. Of course bites on the head and body may be temporarily frozen as the only quick means of slowing the circulation and, therefore, absorption. The value of the ligature to the part that can be ligated depends on the length of time elapsed between the receipt of the injury and the beginning of the treatment. As soon as seen the circulation of the part should be absolutely cut off until other local measures can be instituted, and Willson says this is best accomplished by the use "of a series of ligatures between the bite and the heart, at least one of which should be applied to that segment of the limb containing one bone." There is, of course, danger of causing gangrene, especially "in the parts devitalized by the crotalin venom, hence as soon as possible the ligatures should be partially relaxed." If the patient is seen a considerable time after the bite, and constitutional symptoms are in evidence and the local lesion is badly swollen, ligation seems of doubtful utility. On the other hand, ligatures so applied as to impede the return flow of blood and lymph render the absorption more gradual and allow the system to combat the poison and not be overwhelmed by it. Such artificial hyperemia, Willson thinks, does not add to the danger of extensive local necrosis, and should be substituted for the complete stoppage of the circulation as soon as practicable. While cautioning against allowing a limb to be ligated too long, Willson warns against a too sudden resumption of the circulation allowing rapid absorption of the poison. Such a sudden return of the circulation to the part has sometimes caused death from constitutional symptoms. He would advise intermittently relaxing the ligature nearest the heart, letting it become looser and looser until it is entirely removed. The other ligatures may then be taken off in the same way. It would perhaps be rarely justifiable to amputate a prominent part of any limb for a snake bite, at least in this country.

As most patients suffering from snake bite are seen by the physician only after the complete ligation of an extremity for an hour or more, with the distal portion of the limb swollen and discolored, the most advisable treatment at this time seems to be "a dissection of the wound with free multiple incisions throughout the swollen area, together with such measures as kneading and massage of the part, and its immersion in warm, mild antiseptic solutions to promote hemorrhage and escape of serum." While all the venom could probably not thus be gotten rid of, enough might be removed to make the difference between a poisonous and non-poisonous dose, when the circulation of the part is again allowed to take place. Of course such treatment of multiple incisions should be made with care not to cause injuries to tendons or future cicatricial contractures. As to the local antiseptic that should be used, the most important seems to be a 1 per cent. solution of permanganate of potash. In the local management of snake bites the general principles of aseptic surgery should never be lost sight of.

The general treatment of the patient resolves itself into four heads:

"1. To destroy the source of the poison.
"2. To neutralize the poison already in the circulation.
"3. To aid and to stimulate its elimination.
"4. To support the patient."

The first has already been discussed. As to the second indication, Willson says that an antitoxin or "serum treatment of snake poisoning, so far as this country is concerned, does not exist;" consequently our treatment must be directed to combating the toxic effects of the poison by such antidotal treatment as seems indicated. Alcohol as ordinarily used, Willson says, is useless and is in no sense antidotal to or destructive of snake venom. Patients bitten by snakes have recovered from enormous doses of alcohol, but some have undoubtedly succumbed to such doses. Strychnin Willson does not think much indicated in poisoning by American snakes, and especially in crotalin poisoning. The profound lowering of the blood pressure should be met and the shock should be treated by absolute rest with the head low, the body kept warm with artificial heat, and the administration in some manner of suprarenal solutions, probably best by hypodermic injection. One cubic centimeter (15 minims) of a 1 to 1,000 active principle suprarenal solution in water could be repeated in an hour or two, if needed. Physiologic salt solution, either intravenously, by hypodermoclysis, or by enteroclysis, as deemed advisable from the severity of the symptoms, may be used. "This solution may be impregnated with oxygen."

Artificial respiration is of much less importance in the viperine (crotalin) poisoning, i. e., the kind that occurs mostly in this country, than it is in the colubrine poisoning which occurs elsewhere. In other words, as above stated, the colubrine poisoning acts specifically on the respiratory center. However, artificial respiration could never do any harm if it did not save life.

The after-treatment is that of the local lesion, inflammation, or sepsis if it occurred.

LOTION TO SOFTEN THE HANDS OF LABORERS.

The *Druggists Circular*, March, 1908, suggests:

℞.

	c.c.		
Glycerini	20		flʒvi
Aquæ ammoniæ	5	or	flʒiss
Spiritus myrciæ	20		flʒvi
Aquæ, ad	100		ad fl℥iv

M. et sig.: Apply to the hands after washing and dry by friction.

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[*For other information see second page following reading matter*]

SATURDAY, AUGUST 8, 1908.

SPOROTRICHOSIS—A REVIEW.

In 1898 Schenck[1] reported an unusual case of refractory subcutaneous abscesses of the arm, the point of entrance of the infection being a scratch by a nail of the index finger, whence the infection extended along the lymph channels. From the contents of these abscesses Schenck isolated in pure culture a fungus which was regarded as "possibly related to the Sporotricha." The abscesses contained a gelatinous pus and often they were succeeded by ulcers with undermined edges. The illness in this case lasted about six months.

Two years later Hektoen and Perkins[2] observed a similar case with an almost identical clinical course, the abscesses developing after an abrasion of the finger from a blow by a hammer. A number of abscesses and ulcers formed in the subcutaneous tissue of the forearm and there was swelling of the axillary and supraclavicular lymph nodes. The illness lasted three months. Cultures from the gelatinous pus yielded pure growths of the same fungus that Schenck obtained and this was now named "*Sporothrix schenckii.*"

Of the cultural and other peculiarities of this fungus, which is a strict aërobe, the following may be mentioned: On solid media such as agar the growth at first is opaque white or grayish-white, extending downward into the medium so that soon a dense coherent mass is formed which may show a snow-white efflorescence. As the cultures grow old they become dark brown or black. In liquid media round tufts or balls develop. Gelatin is liquefied slowly.[3] The fungus consists of a branching septate mycelium from which ovoid bodies develop by budding either from the extremities of lateral or terminal filaments or from the sides of the threads. These characteristics are shown well in the illustrations in the articles cited. Those ovoid bodies are regarded as spores and it is their formation in large numbers that gives the surface of cultures a snowy, efflorescent appearance. Mycelium as well as spores stain well with ordinary dyes and also by Gram's method.

White rats and white mice seem to be the most susceptible animals and in them this fungus causes a slow, circumscribed, nodular inflammation with pus and ovoid fungal bodies (spores[2]) in the center, while at the periphery encapsulating processes go on. This is best seen in the peritoneal cavity. Subcutaneous inoculation in mice causes extensive superficial ulcerations with undermining of the margins. In the two human cases referred to the parasite was not seen in the lesions, being obtained by culture from the pus. Threads do not develop recognizably in the tissues of inoculated animals, only oval, spore-like bodies occurring in the pus in which they undoubtedly multiply as such.

It may be mentioned that Brayton[4] also described an instance of multiple chronic abscesses of the forearm, with gelatinous contents, developing after puncture of the finger by wire, but this case was not studied microbiologically.

Since the publications mentioned nothing more has been heard of this peculiar infection in English literature and no additional cases appear to have been recognized in this country. In Paris, however, a number of cases of various forms of human infection with sporothrix have been described since 1903 when de Beurmann and Ramond[5] reported an instance of multiple subcutaneous abscesses of fungal origin. More recently Lutz and Splendore[6] in San Paulo, Brazil, and Greco[7] have made important contributions to the study of sporotrichosis in man and in animals.

De Beurmann and others[8] describe several instances of sporotrichal abscesses, scattered without any evident elective localization over different parts of the body. The source of infection in these cases is not known and the mode of dissemination is evidently different from that in the American cases. The French authors trace in detail the evolution of the sporotrichal lesion: first there is a small nodular induration in the skin or subcutaneous tissue; gradual, painless softening takes place resulting in from four to six weeks in an abscess with gelatinous contents and without much tendency to enlargement or ulceration if not incised, although spontaneous ulcerations are also described. There is no impairment of the general health. Cultures from the pus give pure growths of the sporothrix. Iodid of potassium exercises definitive curative action whereas mercurials do not. The fungus isolated from the pus in the French cases does not appear to differ in any single essential from *Sporothrix schenckii*, hence it should be so called in accord with the accepted laws of scientific biologic nomenclature. On the other hand a sporothrix isolated by Dor[9] from the pus of a case in which the numerous subcutaneous abscesses were very large seems to have presented quite distinct character-ties; in this case the infection appeared soon after the dgment of a needle in the mucous membrane of the harynx.

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[1] Bull. Johns Hopkins Hospital. 1898, 286.
[2] Jour. Exp. Med., 1900, v, 77.
[3] For further details see also Foulerton, Trans. Path. Soc. of London, 1901, lii, 259
[4] Indiana Med. Jour., 1899, xviii, 272.
[5] Ann. de Dermatologie et Syphiligraphie, 1903, 768. Also Matrechot and Ramond, Compt. rend. de Soc. biol., 1905, lix, 379.
[6] Centralbl. f. Bakt., 1 Abt., 1907, xlv, Orig., 632.
[7] Argentina Medica, 1907.
[8] See summary, by de Beurmann and Gougerot, Ann. de Dermatologie et Syphiligraphie, 1906, 538.
[9] Presse Médicale, April 14, 1906, 234.

Lutz and Splendore[6] record five cases of human porotrichosis which they have studied completely. These cases all presented the clinical course and the appearances of the cases of Schenck and of Hektoen and Perkins, the infection gaining entrance through the skin of the finger or back of the hand. The sporothrix isolated appears to correspond to the *Sporothrix schenckii*. The South American authors also attribute curative effects to potassium iodid given internally. These authors furthermore have observed the spontaneous occurrence of ulcerative sporotrichosis in rats, the lesions being usually situated on the extremities or the tail. Secondary internal localizations were rarely seen. Having found the fungus on the mucous membrane of the mouth of healthy rats, Lutz and Splendore are inclined to ascribe the cutaneous sporotrichosis of rats to infection from bites.

Among other instances of sporotrichal infection special mention is made of Greco's case[7] in which the foot was involved; of Danlo's and Bland's[10] instance of palpebral localization; and of the localization in the triceps observed by de Massary, Doury and Monier-Vinard.[11]

Additional cases of cutaneous sporotrichosis have been described,[12] thus showing that this form of infection may be much more prevalent than is suggested by surface indications.

We come now to the consideration of the most recently discovered phase of sporotrichal infection, namely, the involvement of mucous membranes. De Beurmann and Gougerot[13] note the saprophytic occurrence of *Sporothrix schenckii* on the bucco-pharyngeal and laryngeal mucous membranes and in a case of cutaneous and subcutaneous sporotrichal abscesses they found the sporothrix in a small ulcer on the soft palate. It has been mentioned that Lutz and Splendore found the sporothrix in the mouth in rats. The case described by Letulle[14] shows well the pathogenic possibilities of this organism: The disease began in January, 1907, as a small nodule on the right forearm and a large number of similar lesions soon cropped out on various parts of the body. Rapid regression took place under treatment with potassium iodid, but in August extensive pharyngeal and laryngeal ulceration had developed which microscopic examination showed to be of sporotrichal nature. At first the ulcers were small, round and grayish with elevated red borders; later the ulceration became continuous, presenting a grayish yellow surface and at one point a small colony of sporothrix actually formed at the same time as typical ovoid bodies were found free in the pus as well as enclosed in polynuclear cells and giant cells. Caseation was not observed. The patient, 66 years old and a vendor of lettuce, died in January, 1908, as the result of a cachexia owing to progressive dysphagia. There was found after death some lobular pneumonia, no internal sporotrichal invasion, but a large ulcer of the larynx, pharynx and oesophagus. Sporothrix is said to have been found on the leaves of lettuce.

In conclusion it may be pointed out that from the foregoing it is quite evident that from now on sporotrichal processes must be reckoned with in the diagnosis and treatment of chronic nodular infections, especially of the skin and subcutaneous tissue. That certain mucous membranes become involved is shown by Letulle's noteworthy case. Heretofore sporotrichosis, no doubt, has been confounded with syphilis or tuberculosis or other diseases—more probably the former because of the curative effect on both of potassium iodid. The clinical resemblance of cutaneous sporotrichosis to glanders also is noted by Lutz and Splendore. It is also clearly evident that whenever possible microbiologic methods of diagnosis must be used in order that the exact nature of the process may be determined. The more that this is done the sooner will the exact nosology and distribution of sporotrichosis become known.

OLYMPIADS, ANCIENT AND MODERN.

Accounts of the recent athletic contests in London have been inspiriting reading. The results have been complimentary to the brawn and physical endurance of our representatives, who, on the whole, excelled those of many other nations, particularly those of the United Kingdom. Surely no one now need consider seriously the animadversion that the virility of the American youth is declining. The contests were attended by many interesting and dramatic incidents. Probably never in the history of athletic events has anything been witnessed comparable with the spectacle at the finish of the "Marathon" race. For several minutes before the appearance of the first runner there was a tense hush among the 80,000 people who were in the immense stadium at Shepherd's Bush, where all the contests had been held. The course, of about twenty-six miles, was laid from Windsor, where the Princess of Wales started eighty-six runners, through a beautifully diversified country. Presently there appeared Donaldo, an Italian, whose spirit was far stronger than his body. A pitiful wreck, with drawn face and tottering legs, barely able to support himself, he was closely followed by friends in order that they might prevent his falling. When more than a hundred yards from the finish he dropped in a heap, was lifted up and started anew, only to collapse once more when some forty feet from the tape. Being again helped to his feet, he stumbled, reeling then from side to side like a drunken man, collapsing again and again, and his unconscious body was finally carried across the line. During these pathetic struggles there came Hayes, an American, who rapidly traversed the two-thirds of the stadium track necessary to be completed. The latter was adjudged the winner, Donaldo having been disqualified by reason that he had been carried across the line. Among the sixteen contestants who finished immediately after Hayes, four were his compatriots. It is only fair to say that among those of our representatives in these games the only strictly American name was that of Tewanina, the Indian runner; the list of the rest gives a deliciously Hibernian flavor. We seem, nevertheless, entitled to conclude that the cult of the physical has suffered no decline among our people in our day.

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[10] Bull. Soc. méd. des Hôpitaux, 1907, p. 1450.

[11] Ibid., 1907, p. 1526.

[12] Bull. Soc. méd. des Hôpitaux, 1907; Dominici and Rubens-Duval, p. 1055; Laubry and Esmein, p. 386; Rubens-Duval and Fage, p. 380; Lesné and Monier-Vinard, p. 268; Monier-Vinard, p. 353; de Beurmann and Gougerot, pp. 596 and 950.

[13] Ibid., 1907, p. 1069 and 585.

[14] Presse médicale, 1908, xvi, 177; also Letulle and Debré, Bull. Soc. méd. des Hôpitaux, March 19, 1908, 379.

Witness again that superb demonstration recently given by the youths of the Young Men's Christian Association, who, in relays, by night as well as day, over rough roads, through civic thoroughfares, and by swimming across lakes, carried a mayor's message from New York City to Chicago. Nor need we dilate on the physical achievements of our college men, except to note that Dr. Dudley A. Sargent,[1] the director of the Hemenway gymnasium, has found a marked improvement in the physique of both college athletes and students during the past quarter century. The average weight and height of the Harvard student of 1880 were about the same as that of the American youths from 21 to 26 years of age who entered the Federal Army in 1861. The present day undergraduate is an inch taller, from four to eight pounds heavier, while his strength has shown a gain of 30 per cent. In 1880 only 50 per cent. of the Harvard students would have surpassed the height and weight of the army average, while to-day 65 per cent. are superior to that standard. This "is a most remarkable uplift in growth and development for any considerable body of men in any country or community to have attained in twenty-five years."

The original Olympiads seem to us moderns to have been quite characteristic of the spirit and genius of the ancient Greek people. Such, however, was not altogether the case. "The foremost minds of Greece censured and condemned that for which commonwealths established statues, often free dinners for life in town halls, or even breached their walls that the conquering hero might enter amid civic acclamations." Hippocrates and Galen inveighed against the Olympiads, at least with regard to their purely physical aspects. The former spoke of the "athletic diathesis" as being something achieved or come by, and not something of the natural order; he was suspicious of this diathesis, which he differentiated from "the faculty of health." He was, however, a great upholder of gymnastics, the general even training of all the faculties. *Mens sana in corpore sano* was his ideal, though the phrase was Juvenal's. Galen considered the athletic forms of training which develop experts to be excessive, as leading up to some kind of technical power. Aristotle held that the state or habit of athletes was useful neither for the welfare of commonwealths, nor for the health of the individual; their labors were bound up with forced strain and violence; he wondered why they had no good complexions; they were particularly susceptible to colds; they were liable to pass away quickly. And thus Euripides, that keenest of critics: "While evils numberless prevail in Greece, none is worse than the tribe of athletes, who first do not learn well to live, nor could they; for how could one who is a slave to mastication [was there Fletcherism in those days?] and subject to his stomach's needs, acquire a prosperity greater than his sire's, nor, on the other hand, are they enabled to toil in poverty and keep their oar with fortune's flying stroke; or, untrained in good habits as they are, 'tis cruelly hard for them to shift to desperate vicissitude. . . . For who that wrestled well, what nimble-footed man, or who that raised the discus, or thumped some jaw with skill, did aught avail his ancestral commonwealth after he received the wreath?"

The situation was not so incongruous as might seem. No doubt Hippocrates and Galen represented fairly well the medical opinion of their eras—which is not essentially changed to-day. While appreciating to the full the picturesqueness of athletic sports and the noble and most wholesome enthusiasm which they inspire, nevertheless, many physicians now deprecate over-training and over-exercise, such as seems almost essential to the winning of great races. To-day, as in the time of the first Olympiads, many athletes much too soon develop tachycardia, hypertrophied and even permanently dilated hearts; they become pale-faced, tire easily, suffer from dyspnea, develop kidney lesions, and are less resistant than the ordinary citizen, who is not excessive in his exercise. The gist of the matter, here as in all things else, lies in moderation. Especially should the "Marathon" race now be given up. The first course was run by a most heroic soldier to announce the great victory; when he had done this he dropped dead. It is a cruel race, which to-day has not the like splendid motive. The immortalization of the Marathon run may safely be left to poets, who, knowing nothing whatever about athletics, may thus nevertheless play their honorable part.

THE ARMY MEDICAL RESERVE CORPS.

After a struggle of four years on the part of the Surgeon General of the Army, backed by the medical profession, Congress at its last session was induced to give much needed relief to the Army Medical Corps, by an Act, approved last April, entitled "A bill to increase the efficiency of the Medical Department of the Army." Conditions in the Army prior to this were deplorable, so far as the organization of the Medical Department was concerned, as apparently no thought had been given to requirements for war. In fact, officers were far too few to perform the ordinary duties of peace times. Such a condition is quite contrary to that prevailing in the army of every civilized country, except our own, of maintaining during peace a personnel greatly in excess of its actual needs, but so constituted as to be capable of ready expansion in war time, without entailing the occurrence of horrors such as those that attended the Spanish-American War. These were inevitable under the then existing conditions, because they were due not to professional, but to military lack of training. From the insurance viewpoint then, this must be regarded as good policy.

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[1] Harvard Graduates' Magazine, June, 1908.

Another deficiency was that the prospects of promotion with adequate compensation were so poor that it had become impossible even to maintain the Medical Department at the meager strength allowed by law, and year by year fewer and fewer candidates could be induced to take the entrance examination. The deficiency in the number of medical officers—who hold an honorable position, as they, like other officers, have a commission signed by the President—was made up by the employment of surgeons under contract, whose status was anomalous, as they were in the Army and not of it—holding no commission which would confer on them the rights and privileges due to all members of an honorable profession.

The new law corrects all these bad features wholly or in part. The number of medical officers is notably increased, so that while our Army Medical Corps is not yet nearly so large, relatively to the size of the Army, as that considered necessary by other nations, it is of so respectable a size that there is now no occasion to blush for our apparent callousness toward our soldiers as compared with the care shown by other countries.

The candidate for the Medical Corps has not at present, it is true, any prospect of the great rewards that come to the leaders of the medical profession in civil life, but he can at least expect promotion and pay which are above the average for the civilian practitioner.

The contract surgeon system has been done away with forever, it is hoped, as all contract surgeons in the service at the time of the passage of the act cited, if so recommended by the Surgeon General of the Army, have been commissioned as first lieutenants in the newly created Medical Reserve Corps.

One other very important result has been effected by the struggle to obtain adequate recognition from Congress. Before this was started the profession in general took little interest in Army matters. The accomplishments of certain individual medical officers, such as Reed, Carroll and Gorgas, were, of course, well known; but physicians generally hardly realized that they were represented in the Army by members of the profession whose achievements, both from patriotic motives and for the honor of medicine, concerned them. It is probable, too, that their obligations in this direction were appreciated the more on account of the recent achievements of the Japanese army, which have demonstrated to the world, that, with the proper organization, numbers, and education of the medical corps, there is no reason why any army should be decimated by disease, or that sick and wounded soldiers should not, at all times, have the care and attention to which they are justly entitled.

The surgeon general has also wisely taken advantage of the feeling thus created, still further to advance the medical service of the army. In order to do this he has lately got in touch with many of the most prominent physicians, surgeons, hygienists and laboratory workers in the country with a view to inducing them to join the new Medical Reserve Corps. We are informed that nearly one hundred favorable responses to the invitation to join this corps have been received from such men. In peace, such officers will not be called on for active duty, so they need fear no interference with the invaluable work which they are performing in their various communities. Their names, however, will lend dignity to the Medical Reserve Corps and give it a standing which could not be otherwise acquired. In war, active service can be required of only those officers of the Medical Reserve Corps who are willing to serve. The need, individual circumstances and home duties would all necessarily be factors in determining the action taken by each. On the other hand, while officers of the Reserve Corps can be commissioned only as first lieutenants under the law, men of the high type indicated holding commissions therein or accepting active service in war would naturally be advanced to the highest volunteer rank available.

THE ILLINOIS PSYCHOPATHIC INSTITUTE.

In the *Bulletin of the Illinois State Board of Charities* for July, the work of the Psychopathic Institute, for which preparations have been in progress for some months, is outlined. In fact it may be said to have been already in operation for some time to a limited extent at Kankakee, but the intention now is to carry its operations into all the institutions for the insane, and to make it the central school of instruction in scientific methods in psychiatry of the state. That there has been a need of some such stimulus for better methods and work has been evident for years, and it is to the credit of the present state administration that it has been thus provided for.

This is not a new experiment as the plan adopted is evidently modeled on that of the New York State Pathological Institute, the value of the work of which is amply attested in the latest report of the State Commissioners in Lunacy of that state, who consider it one of their most valuable adjuncts in the steady uplift of the medical work of the state hospital for the insane. That such will be the verdict in Illinois, if such an institution can be conducted along similar lines as in New York, is a foregone conclusion. Of course much will depend on the individual in charge of the institution, and Illinoisans may reasonably regret that their state so early lost the services of the man who has so successfully developed the work in New York. It has, however, the advantage of the successful experience in that state as a guide, and it may not be too much to expect that it will keep at least fully abreast with its institution. The head of a pathologic institute of this kind must be more than a skilful and scientific pathologist; he must be a clinician and a psychologist as well, and above all he must have the faculty of arousing and maintaining the scientific spirit and enthusiasm of those whose work he is to direct. If he is to be subordinate to the head of one of the state hospitals, considerable responsibility will rest on his immediate superior, on whose cooperation and good judgment the best success of the work will largely depend. As is recognized in New York State, it is the assistants on the medical staff who will have to receive the instruction and be mainly depended on for the actual personal observation and study. It should therefore increase to some extent their labors, but should also increase the consideration they receive, and they should be duly encouraged to do research work, with the assurance of obtaining proper credit for it, so that hospital positions may be made more desirable than has been the case heretofore. Provision should be made for interneships from which the medical staff can be recruited and which, in any case, will be looked on as worth the seeking of the young graduate in medicine. In the large insane hospitals of the present day there are many opportunities for practical work in general medicine and surgery as well as in the special department for which the institution is designed, and interneships ought to be attractive for first-class men.

If the results of such an institution as the new psychopathic institute were only to save a small percentage of the victims of insanity from becoming chronic charges on their friends or the public or to restore to sanity and usefulness a minute proportion of the cases now considered hopeless—and they should be very much more than this—the wisdom of its establishment ought to be manifest to the most economical objectors. It is in other ways one of the most important steps that have been taken to bring the Illinois hospitals for the insane in accord with modern ideas of what they ought to be.

THE TRANSMISSION OF PRESSURE FROM THE BLADDER TO THE KIDNEY.

There is a widely prevalent notion that overdistention of the bladder results in "a damming back of the urine" through the distended ureters on to the kidneys, with consequent congestion and damage to those organs. From an interesting series of experiments on the ureters of the dog, D. R. Lucas[1] concludes that this does not occur. He has found that in the dog not only are the normal uretero-vesicular valves quite competent to prevent regurgitation, but the ureters are "capable of forcing urine into the bladder even when sufficient pressure is gradually exerted in the bladder to burst it, no rise of pressure taking place in the ureter either from regurgitation or accumulation of urine secreted by the kidney." It is probable, therefore, that whatever effect is exerted on the kidney by retention and distention of the bladder is reflex in origin.

THE BLIGHT ON MEDICAL JOURNALISM

That conditions in this country in the matter of medical literature and medical journalism are not unique is shown in a paper presented to the recent Congress for Internal Medicine at Vienna, by the president, F. v. Müller,[2] of Munich. All the evils of which we complain exist there also (although as this country contains the major part of the medical journals of the world, the extent of such evils, if not the diversity, is magnified here), viz., overproduction of articles that contain nothing new; the bolstering up of indifferent journals with the names of well-known men who, however, take no active part in the production of the journals and disclaim all responsibility for them; multiple publication of an article or publication in different journals of articles that are mere *réchauffés* of the same matter; premature communications; innumerable case reports, and interminable bibliographies. But the worst of all are the journals conducted for various side issues, which publish lying statements as to circulation and "write-ups" of commercial products. Müller's appeal to the "forces above material interests" to persuade writers to write only when they really have something to say, and publishers to publish only to supply a public want, will, we fear, fall on deaf ears. There is only one way to bring about the desired reform, and that is for the profession to show unequivocally what it wants. When the profession is educated up to a comprehension of that fact and acts on it, there will be no need to call on the "forces above material interests" for the suppression of the evil.

EUPHEMISMS—MEDICAL AND OTHERWISE.

A study of the psychology of language would bring out many interesting points with reference to the effect of the spoken word on our attitude toward the thing spoken of. There is a large class, especially among those in a transitional stage of civilization, which is opposed to calling a spade a spade. Among such people it is considered improper to refer to a lower extremity as a leg; polite society requires "limb" as a substitute. On the farm the boar becomes a "male hog," and it is said that by some of these language-prudes the poor inoffensive bull is referred to as a "gentleman cow!" Such attempts at verbal smoothness and mock delicacy have rightly been the subject of sarcastic comment and have been held to indicate an adolescent stage in civilization—a half-way house, as it were, between the coarseness of the frontier and the culture of the metropolis. Our British cousins, in particular, have not been slow to deprecate the western aversion to calling a thing by its right name. One is surprised, therefore, to see in a recent number of a British medical publication[1] an apology for the medical euphemism. The present tendency on both sides of the Atlantic to discuss questions of a medicosocial nature has, according to our contemporary, made it necessary to adopt a new vocabulary, "in order to avoid shocking the feelings of ladies bent on reform, who, while willing, nay anxious, to discuss the social questions, still squirm at the descriptive term." By way of example the quasimedical terms, "avariosis" and "neisserosis," have been proposed to designate, respectively, syphilis and gonorrhea. The former term, "avariosis," has its etymology in Brieux's play, "*Les Avariés*"—"The Damaged Ones"—which deals with the sociologic importance of syphilis. These terms, we are told, "bid fair to become acclimatized." That the British, of all people, should even suggest the abandonment of that frankness—we had almost said brutal directness—of speech of which they are so justly proud, gives color to the pessimistic charges of British national deterioration. What is to be gained by the euphemism it is hard to say. As the prurient user of the term "limb" develops an altogether artificial and unnecessary sense of indelicacy toward the object spoken of, so it is a question whether substituting "neisserosis" for gonorrhea will not tend more to accentuate the method by which the disease is acquired than its importance as a sociologic evil. We suggest that "ladies bent on reform" whose feelings are shocked by the use of a dignified scientific term are inherently unfitted for the difficult and delicate task of attacking a world-old problem which has thus far defied solution.

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[1] Am. Jour. Physiol., xxii, No. 2.

[2] Abstract of Müller's paper appears in Miscellany Department, page 513.

Medical News

CALIFORNIA.

Epidemic at State Hospital.—An epidemic of diphtheria is reported from the Southern California State Hospital, Patton, where 40 cases are now isolated. The source of the epidemic has not yet been traced. All the patients are doing well and no deaths have occurred.

Commencement.—The College of Physicians and Surgeons, Los Angeles, held its annual commencement exercises June 26. Diplomas were conferred on a class of 10 by Dr. Charles W. Bryson, dean of the faculty, and the doctorate address was delivered by Dr. James P. Booth.

Hospital Notes.—The new German Hospital, San Francisco, was dedicated June 27, with formal ceremonies. The new structure consists of two six-story brick buildings, which have been erected at a cost of about $700,000. The hospital was opened to receive patients July 9, and under the direction of the new superintendent, Dr. Hoffman, and resident physician, Dr. Walter G. Harder, the patients were transferred to their new quarters without difficulty or inconvenience.——Plans have been completed for the new City and County Hospital, San Francisco, which is to cost $250,000. It is to be a three-story fireproof structure with a main building and two wings.

Personal.—Dr. Stewart M. Dougherty, Napa, has been appointed second assistant physician at the Napa State Hospital, vice Dr. Tyre H. Stice, and Dr. Louis A. Frary has been appointed third assistant physician, vice Dr. S. M. Dougherty, promoted.——Dr. Peter C. Remondino, San Diego, has been made professor of the history of medicine and medical bibliography in the College of Physicians and Surgeons, Los Angeles.——Drs. Charles A. Dukes and Oliver D. Hamlin have been appointed members of the Oakland board of health.——Dr. E. Scott Blair, San Bernardino, has succeeded Dr. A. P. Williamson, resigned, as superintendent of the Southern State Hospital, Patton.——Dr. Horace G. Cates, division surgeon for the Southern Pacific, with headquarters at Los Angeles, for the last 17 years, retired August 1, and has been succeeded by Dr. Edward T. Dillon.—Dr. and Mrs. Washington Dodges, San Francisco, have gone to Europe.

COLORADO.

Care of Feeble-Minded Children.—The State Board of Charities and Corrections is arranging to canvass the state in order to obtain material on which to base a petition to be presented to the next legislature asking for a state institution for the care of feeble-minded children. The necessary information is peculiarly difficult to get.

New Hospitals.—Miss Ida L. Gregory of Denver has given fifteen acres of ground with eighteen cottages, six miles above Morrison, for a sanatorium for tuberculous children. The institution will be formally opened July 20.——A new city hospital with 25 beds has just beeen opened at La Junta. The hospital cost $20,000, more than half of which was donated by citizens of Otero County.

Addition to State Hospital for the Insane.—The new wing of the women's department at the State Hospital for the Insane at Pueblo is now complete and 50 patients will be removed from the Arapahoe County Hospital, Denver, to Pueblo. Fifty more will be taken there from other counties and about 50 insane women will still be without suitable care until the state shall provide another hospital.

Woman's State Medical Society Organized.—The women physicians of Colorado have organized a Woman's Colorado State Medical Society. All women physicians in good standing in their county medical societies are eligible to membership. The objects of this society are to bring the medical women of Colorado into communication with each other for their mutual advantage and the protection of their interests, to encourage social and harmonious relations within the profession, and to promote all measures adapted to the relief of suffering, the promotion of health and protection of life.

DISTRICT OF COLUMBIA.

To Suppress Noise.—The superintendent of police has detailed a special squad of policemen for the suppression of unnecessary noises between midnight and 8 a. m.

Health Report.—According to the weekly health and mortality record for the week ended July 25 there were 128 deaths, of which 69 were white and 59 colored. Of the births, 87 were white and 39 colored. There were 123 cases of typhoid fever under treatment, an increase of 21 over the number on hand at the close of the previous week.

Fellowship Vacant.—A research fellowship in the department of medicine of the George Washington University, carrying with it an annual stipend of $300 is vacant. This fellowship is open to research in any of the medical sciences. Applicants should address Dean W. F. R. Phillips, department of medicine, 1325 H St., N.-W., Washington, D. C.

Pure Food Inspection.—The vigorous crusade against the insanitary preparation of food inaugurated by the health office last month has resulted in an epidemic of cleanliness among those yet to be investigated. Several proprietors of lunch rooms have been convicted in the police court of violations of the law and about a dozen are to close their doors.

Banquet to General Sternberg.—A banquet in honor of the seventieth birthday anniversary of Gen. George M. Sternberg was given June 8, when nearly 200 men celebrated in the annals of government, science and literature met to honor the former surgeon-general. Hon. John W. Foster, former secretary of state, presided as toastmaster. A silver loving cup was presented to General Sternberg by those who attended the banquet, and a large American flag was given him by the attachés and patients of the Sternberg Sanitarium in Maryland.

ILLINOIS.

Personal.—Dr. John W. Dreyer, Aurora, has been appointed head physician for Illinois by the Modern Woodmen, vice Dr. James A. Rutledge, Elgin, elected national director.——After

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[1] Med. Press and Circular. June 3, 1908.

MINNESOTA.

Pasteur Institute Report.—The Minnesota Pasteur Institute, Minneapolis, which was established in August last, has treated 161 cases since that time.

Tuberculosis Camp Ready.—Hopewell Park, the new tuberculosis camp established by the city of Minneapolis, is completed and ready to receive patients.

Communicable Diseases.—Diphtheria is reported prevalent at Aurora.——Crookston has twenty-two cases of typhoid fever, and the disease is reported to be epidemic in Mankato, where the Catholic school adjoining St. Joseph's Hospital has been converted into an emergency hospital.

Personal.—Dr. Adolph O. Bjelland has been elected president of the Mankato Anti-Tuberculosis Society.——Dr. Daniel C. Darrow, Moorhead, was thrown from his buggy, July 2, sustaining painful cuts and bruises.——Dr. Archa E. Wilcox, Minneapolis, has been appointed medical member of the board of charities and correction, vice Dr. Charles G. Weston, resigned.

MISSOURI.

Staff Assignments.—At the regular meeting of the board of control of Levering Hospital, Hannibal, the following assignments were made for the medical staff for the year: Dr. James N. Baskett, physician in charge; Dr. Thomas Chowning, attending surgeon; Drs. Charles E. Paxon and Henry L. Banks, consultants: Dr. John J. Bourn, attending physician; Drs. Robert H. Goodier and Archie L. Shanks, consultants; Dr. Richard Schmidt, attending gynecologist; Drs. Elmer E. Waldo and Clifton R. Dudley, St. Louis, consultants; Dr. Edward H. Bounds, attending obstetrician and pediatrician; Drs. I. E. Hill and W. Cloyd Guss, consultants; Dr. W. Cloyd Guss, pathologist; Dr. Ulysses S. Smith, attending oculist and aurist; Drs. Edward T. Hornback and James S. Howell, consultants, and Dr. I. E. Hill, *x*-ray specialist.

NEW HAMPSHIRE.

Communicable Diseases.—Eight cases of diphtheria were reported in Manchester June 22.——Epidemics of mumps and measles are reported in Gilford.

Society Meeting.—At the annual meeting of Belknap County Medical Society, held in Laconia, June 1, Dr. Albert J. LaFrance was elected president; Dr. Edwin P. Hodgon, Lakeport, vice-president; Dr. Alpha H. Harriman, Laconia, secretary, and D. T. Bates Cook, Laconia, treasurer.

Personal.—Dr. Wallis D. Walker, Portsmouth, has been appointed deputy medical referee, vice Dr. William H. Nute, Exeter, resigned.——The medical and surgical staff of St. Joseph's Hospital, Nashua, have elected the following officers: Dean, Dr. Pierre E. Dansereau; president, Dr. A. Wilfred Petit, and secretary, Dr. James T. Greeley.——Dr. Charles E. Congdom, Nashua, has been appointed medical referee of Hillsboro County, vice Dr. James T. Greeley.——Dr. Herbert L. Taylor, city physician of Portsmouth, has resigned.

In the Courts.—The jury in the superior court in the case

Salem; reporter, Dr. John F. Smith, Salem, and censor, Dr. William H. James, Pennsville.

NEW YORK.

County Tuberculosis Hospital.—The board of supervisors of Rensselaer County, at a meeting held in Troy, July 17, appropriated $25,000 for the erection of a hospital for advanced cases of tuberculosis, to accommodate 65 patients.

To Furnish Antitoxin.—The Health Department of New York City has shipped fifty horses to its sanitarium at Otisville which are to be used as antitoxin subjects. Nineteen horses from the Borough of Brooklyn have been added to this number.

Communicable Diseases.—The churches of the town of Wheatfield are to be closed for two weeks and no public gatherings are to be held for the same period on account of the presence of at least 50 cases of smallpox in Niagara County. ——*Elmira reports 20 cases of typhoid fever.*

New York City.

War on Rabies.—Sixty special policemen have been detailed by the Board of Health for the purpose of destroying stray dogs. All dogs without muzzles or unleashed are to be considered as stray dogs. Whether the dog has a license or not is of no importance. The police are not required to report the number of dogs killed.

Mosquitoes Bred in New York.—The state entomologist of New Jersey resents the imputation that New York imports its mosquitoes from New Jersey. It is stated that the conditions at the mouth of the Bronx River are such as would furnish New York City with mosquitoes, and that it is more than possible that New York City furnishes the Palisade district in New Jersey.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended July 25, 400 cases of tuberculosis, with 173 deaths; 219 cases of measles, with 7 deaths; 175 cases of diphtheria, with 22 deaths; 131 cases of scarlet fever, with 9 deaths; 71 cases of typhoid fever, with 15 deaths; 14 cases of whooping cough, with 7 deaths; 12 cases of cerebrospinal meningitis, with 7 deaths, and 9 cases of varicella—a total of 1,031 cases and 240 deaths.

Advice on the Care of Babies.—A handsome cardboard folder containing instructions to mothers on the care of babies has been prepared by Dr. N. S. Macdonald and is being distributed at the Mothers' Seaside Rest at Coney Island. In a few days the booklet will be issued in Italian, Hebrew and German, and all churches, charity societies, missions, etc., are invited to take a supply for distribution. The subjects of infant feeding, clothing, fresh air, bathing, sleep and how to get aid in case of sickness are treated.

OHIO.

Cincinnati.

Dr. Culbertson's Will.—Under the will of the late Dr. James Coe Culbertson, his wife is given his interest in the *Lancet-Clinic,* his stocks, bonds and personal property. The estate is appraised at $20,000.

LOUISIANA.

Provision for Tuberculosis Clinic.—At a meeting of the Louisiana Anti-tuberculosis League July 9, a resolution was unanimously adopted providing for $2,500 to establish a tuberculosis clinic in a central location in New Orleans. This amount should be considered as providing for the maintenance of the clinic for one year.

No New Medical College.—It is announced by the party advocating a medical department for the Louisiana State University that the plans for a medical college in connection with the university have been abandoned on account of the financial depression and the failure to obtain an appropriation from the state legislature.

Milk Supply and Flies.—In the annual report to the State Board of Health, made by Dr. Frederic J. Mayer, New Orleans, medical inspector, he recommends two state institutes of hygiene to be held in the near future, one to consider "Milk in Its Relation to Health," and the other to discuss "The Fly as a Transmitter of Disease."

New Orleans Health Report.—The State Board of Health, in its biennial report, includes an exhaustive statement of the health condition of the city in the last quarter of a century. From the year 1880 to 1907, 25,394 deaths are said to have occurred from tuberculosis and 14,634 deaths from heart disease. The building of an isolation hospital for smallpox patients is urged by the health officer, and he suggests that measles be made a reportable disease.

Charges Against Physicians.—Drs. Maxime Landry and Lambert E. Poree, New Orleans, are said to have been charged with violation of the law by failing to report cases of tuberculosis, and Dr. Ernest A. Rappanier of the same city has been charged with failure to report a case of scarlet fever. Dr. Poree is said to have been fined $25 each, on two charges, and Dr. Rappanier to have been fined a similar amount. Both physicians gave notice of appeal.

MARYLAND.

Personal.—Dr. Peter W. Hawkins, La Plata, is said to be seriously ill.——The attorney general has decided that Dr. Guy Steele, Cambridge, is entitled to be considered the health officer of Dorchester County.

State Exhibit at Tuberculosis Congress.—Representatives of twenty or more Maryland institutions and organizations interested in the fight against tuberculosis, are making arrangements for a state exhibit at the National Congress on Tuberculosis.

Water Supply and Sanitary Condition.—A meeting was held in Cumberland July 15, to discuss the water supply and sanitary condition of the city. Dr. Marshall S. Price, secretary of the State Board of Health, in the course of an illustrated talk on public and private water supplies, advised against the use of the Potomac River as a source of water supply on account of its pollution, and stated that for many years this, with the exception of a few artesian wells, has been the only source of water supply for the city. The physicians of Cumberland have prepared an ordinance providing for the creation of a board of health.

Baltimore.

Typhoid Fever Increasing.—Typhoid fever is reported to be on the increase. During the week ended July 25, 55 cases were reported, with 5 deaths.

New College Building.—The Baltimore Medical College will erect a library building on North Howard Street, four stories in height, to cost about $60,000.

Sanatorium Opened.—The Jewish Sanatorium for Consumptives was opened July 20, with 15 patients. It is under the care of Dr. Max Smirnaw. Two cottages are nearly completed, which will accommodate 12 persons, so that by fall the institution will be able to provide for 50 patients.

Isolation Hospital.—The Sydenham Hospital for Infectious Diseases at Bay View is almost completed. The building is to be one story high and has capacious porches. At the south end there are two wards, one for men and one for women, while at the north end there are similar arrangements for colored patients. Each ward will accommodate eight patients.

Medical Library Building.—Estimates are being secured for the erection of the new library building for the Medical and Chirurgical Faculty of Maryland, for which a site was recently purchased on Cathedral Street. The building will have a breadth of 60.8 feet and depth of 128 feet. On the first floor there will be an assembly hall seating 500, a smaller hall seating 150, social and smoking, committee and section rooms. The second floor is devoted entirely to the library, which will have a capacity of 68,000 volumes; and the third floor is to be given over to section rooms, committee rooms and laboratory.

Personal.—Dr. Adolph Meyer, recently elected director of psychiatric clinic in Johns Hopkins University (the Henry Phipps endowment), will shortly sail for Europe with the architect, to inspect foreign psychiatric clinics.——Dr. James H. Bay of the staff of the University Hospital was recently operated on for appendicitis.——Dr. Leonard M. C. Parker has gone to Europe.——Dr. Arthur M. Shipley has been appointed director of the University Hospital Dispensary.——Dr. Arthur P. Herring has been elected secretary of the state lunacy commission, vice Dr. George J. Preston, deceased. Dr. Hugh H. Young has been elected president of the board, vice Dr. Charles F. Bevan, resigned.

MASSACHUSETTS.

Epidemic in Naval Yard.—On account of the recent epidemic of diphtheria in the hospital of the Charlestown Naval Prison, the prison has been thoroughly fumigated and cleansed and the prisoners quartered in the prison yard. The number of patients has decreased from sixteen to three and these are being cared for in the Naval Hospital, Chelsea.

Personal.—Dr. Charles S. Minot, Stillman professor of anatomy in Harvard University Medical School, has been elected a corresponding member of the Vienna Physico-Medical Society.——Dr. Arthur H. Cutter has been elected a member of the visiting staff of the Lawrence General Hospital.——Dr. Herman Cooper, Amesbury, has been seriously ill.——Dr. John J. Martin has been made president of the Beverly Board of Health.——Dr. George B. Sargent, Lawrence, has succeeded Dr. John G. McAllister, deceased, as United States pension examining surgeon.——Drs. Thomas E. Cavanaugh, Holyoke, and Michael J. Shea, Chicopee Falls, sailed for Europe July 1.——Dr. Percy Reynolds has been placed in charge of the new department of physical education and hygiene at the Massachusetts Agricultural College.

Tuberculosis Notes.—The new Boston Consumptive Hospital was opened July 7 and fifty patients are now under treatment. Dr. Simeon Cox is superintendent of the institution.——The board of health of Cambridge has appointed an advisory board of physicians which will have general charge of the health conditions in the city, and will be ready for prompt action in case of epidemic or other emergencies. The members of the board are Drs. Edmund H. Stevens, Frederic W. Taylor, Thomas E. Cunningham, Walter Wesselhoeft, and Charles H Thomas.——The Cambridge Tuberculosis Camp was opened informally July 15, and will accommodate about 200 patients. Dr. Felix F. McGirr is resident physician at the camp and Drs. John J. Whoriskey, Fred R. Jouett, J. Arnold Rockwell, and John F. Fair make up the visiting staff.——The board of health of Cambridge has assumed charge of the dispensary of the Cambridge Anti-tuberculosis Association, where the following physicians will receive and diagnose cases: Drs. Wentworth L. Hayes, William H. Burke, Frederic J. Goodridge, and George E. Norton.

MICHIGAN.

Epidemic Diseases.—Diphtheria is reported to be present in Ontonagon County, and five cases have appeared in Houghton.——The smallpox epidemic is still progressing in Vermontville.——Smallpox is reported from Marshall.——Smallpox is reported at Atlantic, Baltic and South Range.——Several new cases of smallpox are reported in Hancock.——On July 14 thirty cases of smallpox were under treatment at the Ontonagon County Isolation Hospital.

Personal.—Dr. George Dock, professor of theory and practice of medicine at the University of Michigan, Department of Medicine and Surgery, Ann Arbor, has resigned and accepted the chair of theory and practice of medicine in the Tulane University of Louisiana, New Orleans.——Dr. John H. Carstens, Detroit, announces his candidacy for the mayoralty of the city on the basis of direct appeal to the people. His candidacy will be free from promises, pledges and politicians.——Dr. Casper K. La Huis, Kalamazoo, is said to be critically ill at his home.——Dr. John C. Salmon, Howard City, has been elected medical director of the Michigan G. A. R.——Dr. Howard A. Grube, Coldwater, has been appointed chief surgeon of the Soldier's Home, Grand Rapids.——Dr. Thomas M. Koon, Grand Rapids, has returned after a year abroad.——Dr. D. Emmett Welsh has succeeded Dr. Perry Schurtz as health officer of Grand Rapids.

a long illness Dr. Lewis A. McFadden, Peoria, has recovered and resumed practice.——Champaign County Medical Society has sent in a petition to the board of trustees of the University of Illinois, expressing regret at the resignation of Dr. George T. Kemp, formerly professor of physiology in the university, and asking that the board will endeavor to secure his return.——Dr. Edward L. Kerns, Rock Island, has been reappointed medical director of the Modern Woodmen of America, and Dr. Joseph C. Dodds, Champaign, has been appointed head physician of the order for Illinois.

Psychopathic Institute Installed.—With the completion of the quarters to be occupied by the State Psychopathic Institute at the Illinois Eastern Hospital for the Insane, Hospital, an important step has been taken in the matter of the care and treatment of the insane of the state. Dr. H. Douglas Singer is director of the institute and the scope of the work will be broadened so as to form systematic instruction along the most modern lines or all assistant physicians of insane hospitals in the state. One or two assistant physicians at a time will be sent from each of the eight state institutions, to the institute to receive from three to five days' preliminary instruction under Dr. Singer, which will consist in the introduction of the new system of examination and record keeping. After this instruction has been given Dr. Singer will visit each institution and spend about a week at each; will personally inspect the work that is being done, and make suggestions toward securing uniformity. Following this, a regular course of from four to six weeks, including laboratory work, will be given at the institute. In the equipment of the institute laboratory special attention has been devoted to research and pathologic work and clinical investigation.

Chicago.

Deaths of the Week.—During the week ended August 1, 610 deaths occurred, or 97 more than for the preceding week, and 107 more than for the corresponding week of 1907, the respective annual death rates per 1,000 being 14.68, 12.35 and 12.44. Acute intestinal diseases led the death causes with 173; next came consumption with 57, and violence (including suicide), with 43.

Deaths of Infants.—During July 669 babies under one year of age died in Chicago. Probably two-thirds of these deaths could have been avoided, and most of them may be attributed to ignorance and neglect of the parents. The department of health is now directing the work of 75 physicians in the crowed districts of the city, in the line of education of mothers in the proper care of their children. The most common abuse is reported to be overfeeding and the feeding of improper food.

Mandamus Proceedings Not Pressed.—Mandamus proceedings in an effort to compel the Illinois State Board of Health to recognize his diploma were begun recently by Joseph William Zeh, a graduate in 1908 of the National Medical University, a medical night school of Chicago. Last fall this school was declared not in good standing by the Illinois board. The case was to have been tried in the Superior Court of Cook County, Monday, August 3, and the board was ready, but no one representing the plaintiff appeared.

Arrested for Selling Bogus Diplomas.—Dr. William G. French, a graduate of Hahnemann Medical College of Chicago in 1906, was arrested by the Illinois State Board of Health August 1, on the charge of selling a bogus diploma for $75 to Stanislaus M. Kolar, a drug clerk. The diploma bore the name of the Andrew Carnegie University and was signed by "William Gayle French, A.M., M.D., president of the board of trustees; Frederic C. Hanmore, Ph.G., secretary of the faculty, and W. M. Marquardt, B.S., registrar." An institution by the same name was chartered in Illinois July 31, 1908, but by different persons than those whose names appeared on the diploma.

Summer School of Insanity.—Sixty students have been enrolled in the summer classes of the Chicago School of Civics and Philanthropy under the auspices of the Chicago Commons. Of this number 24 are attendants in various hospitals for the insane and are studying particularly the methods of rehabilitating the minds of their patients. There are 36 in the course of "social agencies of modern cities." In this class the students are learning to become probation or truant officers, reformatory aid society or settlement workers. The course, which is in charge of Edward Worst of the Chicago Normal School, gives instruction in the methods of educating the insane and in varieties of recreation and games adapted to the use of such persons

INDIANA.

Personal.—W. G. Moenkhaus, Ph.D., has been made professor of physiology; Dr. A. G. Pohlman, professor of anatomy, and Dr. W. R. Alburger, professor of pathology in the Indiana University.

Hospital Notes.—The new surgical department of the Protestant Deaconess Hospital, Indianapolis, was opened June 26. ——The tuberculosis hospital commission on July 14 secured a site at Rockville for the Tuberculosis Hospital, at a cost of $24,792.50.——A free tuberculosis clinic has been opened at the Indianapolis City Dispensary, with Dr. Frank L. Truitt in charge. In addition a trained nurse is retained, who will inspect all homes of the patients, instructing patients and their families in the hygiene of their homes and the care of their health.——The Anti-Tuberculosis Society, Evansville, has decided to found a farm colony near that city.——The Sisters of Charity, Indianapolis, have purchased the Victor residence at Missouri and Fifteenth streets, for a hospital.

IOWA.

Medical Society Meetings.—At the twentieth annual June meeting of the Dubuque County Medical Society, held June 23, the president, Dr. James Anderson, delivered the address of welcome; Dr. Robert B. Preble, Chicago, read a paper on "Indications for and Therapeutic Value of Phlebotomy," which was discussed by Drs. Isaac S. Bigelow, James R. Guthrie, Alanson M. Pond and John S. Lewis, all of Dubuque; Dr. E. Wyllys Andrews, Chicago, gave a lantern-slide demonstration of "Practical Points in the Radical Cure of Inguinal Hernia"; Dr. John C. Hancock, Dubuque, presented a paper on "Subdeltoid Bursitis"; Dr. Oliver S. Ormsby, Chicago, a paper on "Some Common Errors in Diagnosis in Cutaneous Disease"; Dr. William A. Pusey, Chicago, demonstrated a new method of treating nevi and other skin lesions by solidified carbon dioxid, and Dr. John S. Lewis, Dubuque, read an article on "Housecleaning, Debt-paying." After the afternoon session, there was a demonstration of pathologic specimens, and in the evening a dinner was given at the Dubuque Club, at which Dr. James R. Guthrie presided as toastmaster.

KENTUCKY.

Details of Merger.—The final details of the merger of the medical colleges of Louisville have been worked out by the committee, composed of Drs. James M. Bodine, chairman. Clint W. Kelly, William H. Wathen, Thomas C. Evans, Lewis S. McMurtry, Joseph B. Marvin, H. Horace Grant, Martin F. Coomes, Henry B. Ritter, and Richard B. Gilbert. By the terms of agreement the property of the Louisville and Hospital Medical College, located at First and Chestnut Streets, and the Kentucky School of Medicine, on Sixth Street, between Chestnut and Walnut, is acquired. The City Council will be asked by the trustees of the university to appropriate $30,000 for the equipment of the laboratories of the medical department. The following officers were elected: Dr. James M. Bodine, president; Dr. Joseph B. Marvin, vice-president; Dr. Thomas C. Evans, dean, and Dr. Philip F. Barbour, secretary. The executive committee is composed of Drs. William H. Wathen, Clint W. Kelly, Lewis S. McMurtry, H. Horace Grant, and the president and dean, ex officio. The auditing committee is composed of Drs. Henry E. Tuley, Martin F. Coomes, Henry B. Ritter; purveyor, Dr. Hugh N. Leavell. Committee to take inventory of the laboratory of the three schools: Drs. Joseph B. Marvin, Ellis S. Allen, Bernard J. O'Connor and Harry A. Davidson. The following major faculty was elected by the commission: Drs. William Bailey, Joseph M. Bodine, Thomas C. Evans, William E. Grant, Henry A. Cottell, Leon L. Solomon, Virgil E. Simpson, Henry M. Goodman, Edward Palmer, Joseph B. Marvin, John G. Cecil, Richard B. Gilbert, Samuel E. Woody, William O. Roberts, Thomas L. Butler, J. Garland Sherrill, Argus D. Willmoth, Turner Anderson, Louis Frank, William B. Doherty, Henry E. Tuley, J. Morrison Ray, Adolph O. Pfingst, Isadore N. Bloom, Charles W. Hibbitt, Bernard Asman, Isaac Lederman, Carl Weidner, Lewis S. McMurtry, Frank C. Wilson, Samuel G. Dabney, John Edwin Hays, H. Horace Grant, Philip F. Barbour, Edward Speidel, George A. Hendon, Walter F. Boggess, Ezra O. Witherspoon, Harry A. Davidson, William H. Wathen, Martin F. Coomes, Henry Orendorf, Fouche W. Samuel, William A. Jenkins, John R. Wathen, George B. Jenkins, Arthur J. Boyd, Oscar C. Dilly, Ellis S. Allen, Curran Pope, Granville S. Hanes, Gaylord C. Hall, Clint W. Kelly, Irvin Abell, Benjamin F. Zimmerman, Hugh N. Leavell, Sidney J. Meyers, Bernard J. O'Connor, Ellis Duncan and William C. Dugan.

LOUISIANA.

Provision for Tuberculosis Clinic.—At a meeting of the Louisiana Anti tuberculosis League July 9, a resolution was unanimously adopted providing for $2,500 to establish a tuberculosis clinic in a central location in New Orleans This amount should be considered as providing for the maintenance of the clinic for one year

No New Medical College.—It is announced by the party advocating a medical department for the Louisiana State University that the plans for a medical college in connection with the university have been abandoned on account of the financial depression and the failure to obtain an appropriation from the state legislature

Milk Supply and Flies—In the annual report to the State Board of Health, made by Dr Frederic J Mayer, New Orleans, medical inspector, he recommends two state institutes of hygiene to be held in the near future, one to consider "Milk in Its Relation to Health" and the other to discuss 'The Fly as a Transmitter of Disease"

New Orleans Health Report—The State Board of Health, in its biennial report includes an exhaustive statement of the health condition of the city in the last quarter of a century From the year 1880 to 1907 25 394 deaths are said to have occurred from tuberculosis and 14,634 deaths from heart disease The building of an isolation hospital for smallpox patients is urged by the health officer, and he suggests that measles be made a reportable disease

Charges Against Physicians—Drs Maxime Landry and Lambert E Poree, New Orleans, are said to have been charged with violation of the law by failing to report cases of tuberculosis, and Dr Ernest A Rappanier of the same city has been charged with failure to report a case of scarlet fever Dr Poree is said to have been fined $25 each, on two charges, and Dr Rappanier to have been fined a similar amount Both physicians gave notice of appeal

MARYLAND.

Personal—Dr Peter W Hawkins La Plata, is said to be seriously ill——The attorney general has decided that Dr Guy Steele, Cambridge, is entitled to be considered the health officer of Dorchester County

State Exhibit at Tuberculosis Congress—Representatives of twenty or more Maryland institutions and organizations interested in the fight against tuberculosis, are making arrangements for a state exhibit at the National Congress on Tuberculosis

Water Supply and Sanitary Condition—A meeting was held in Cumberland July 15 to discuss the water supply and sanitary condition of the city Dr Marshall S Price, secretary of the State Board of Health, in the course of an illustrated talk on public and private water supplies, advised against the use of the Potomac River as a source of water supply on account of its pollution, and stated that for many years this, with the exception of a few artesian wells, has been the only source of water supply for the city The physicians of Cumberland have prepared an ordinance providing for the creation of a board of health

Baltimore

Typhoid Fever Increasing—Typhoid fever is reported to be on the increase During the week ended July 25, 55 cases were reported, with 5 deaths

New College Building—The Baltimore Medical College will erect a library building on North Howard Street, four stories in height, to cost about $60 000

Sanatorium Opened—The Jewish Sanatorium for Consumptives was opened July 20, with 15 patients It is under the care of Dr Max Smirnaw Two cottages are nearly completed which will accommodate 12 persons, so that by fall the institution will be able to provide for 50 patients

Isolation Hospital—The Sydenham Hospital for Infectious Diseases at Bay View is almost completed The building is to be one story high and has capacious porches At the south end there are two wards, one for men and one for women while at the north end there are similar arrangements for colored patients Each ward will accommodate eight patients

Medical Library Building—Estimates are being secured for the erection of the new library building for the Medical and Chirurgical Faculty of Maryland, for which a site was recently purchased on Cathedral Street The building will have a breadth of 60 8 feet and depth of 128 feet On the first floor there will be an assembly hall seating 500, a smaller hall seating 150, social and smoking, committee and section rooms The second floor is devoted entirely to the library which will have a capacity of 68,000 volumes, and the third floor is to be given over to section rooms, committee rooms and laboratory

Personal.—Dr. Adolph Meyer, recently elected director of psychiatric clinic in Johns Hopkins University (the Henry Phipps endowment), will shortly sail for Europe with the architect, to inspect foreign psychiatric clinics——Dr James H Bay of the staff of the University Hospital was recently operated on for appendicitis——Dr Leonard M C Parker has gone to Europe——Dr Arthur M Shipley has been appointed director of the University Hospital Dispensary——Dr Arthur P Herring has been elected secretary of the state lunacy commission, vice Dr George J Preston, deceased Dr Hugh H Young has been elected president of the board, vice Dr Charles F Bevan, resigned

MASSACHUSETTS.

Epidemic in Naval Yard—On account of the recent epidemic of diphtheria in the hospital of the Charlestown Naval Prison, the prison has been thoroughly fumigated and cleansed and the prisoners quartered in the prison yard The number of patients has decreased from sixteen to three and these are being cared for in the Naval Hospital, Chelsea

Personal.—Dr Charles S Minot, Stillman professor of anatomy in Harvard University Medical School, has been elected a corresponding member of the Vienna Physico Medical Society——Dr. Arthur H Cutter has been elected a member of the visiting staff of the Lawrence General Hospital——Dr Herman Cooper, Amesbury, has been seriously ill——Dr John J. Martin has been made president of the Beverly Board of Health——Dr George B Sargent, Lawrence, has succeeded Dr John G McAllister, deceased, as United States pension examining surgeon——Drs Thomas E Cavanaugh, Holyoke, and Michael J. Shea, Chicopee Falls, sailed for Europe July 1——Dr Percy Reynolds has been placed in charge of the new department of physical education and hygiene at the Massachusetts Agricultural College

Tuberculosis Notes—The new Boston Consumptive Hospital was opened July 7 and fifty patients are now under treatment Dr Simeon Cox is superintendent of the institution——The board of health of Cambridge has appointed an advisory board of physicians which will have general charge of the health conditions in the city, and will be ready for prompt action in case of epidemic or other emergencies The members of the board are Drs Edmund H Stevens, Frederic W Taylor, Thomas E Cunningham, Walter Wesselhoeft, and Charles H Thomas——The Cambridge Tuberculosis Camp was opened informally July 15, and will accommodate about 200 patients Dr Felix F McGirr is resident physician at the camp and Drs John J Whoriskey, Fred R Jouett, J Arnold Rockwell, and John F Fair make up the visiting staff——The board of health of Cambridge has assumed charge of the dispensary of the Cambridge Anti tuberculosis Association, where the following physicians will receive and diagnose cases· Drs Wentworth L Hayes William H Burke, Frederic J Goodridge, and George E Norton

MICHIGAN.

Epidemic Diseases—Diphtheria is reported to be present in Ontonagon County, and five cases have appeared in Houghton——The smallpox epidemic is still progressing in Vermontville——Smallpox is reported from Marshall——Smallpox is reported at Atlantic, Baltic and South Range——Several new cases of smallpox are reported in Hancock——On July 14 thirty cases of smallpox were under treatment at the Ontonagon County Isolation Hospital

Personal—Dr George Dock, professor of theory and practice of medicine at the University of Michigan, Department of Medicine and Surgery, Ann Arbor, has resigned and accepted the chair of theory and practice of medicine in the Tulane University of Louisiana, New Orleans——Dr John H. Carstens, Detroit, announces his candidacy for the mayoralty of the city on the basis of direct appeal to the people His candidacy will be free from promises, pledges and politicians——Dr Casper K La Huis, Kalamazoo, is said to be critically ill at his home——Dr John C Salmon Howard City, has been elected medical director of the Michigan G A R——Dr Howard A Grube Coldwater has been appointed chief surgeon of the Soldier's Home Grand Rapids——Dr Thomas M Koon, Grand Rapids has returned after a year abroad——Dr D Emmett Welsh has succeeded Dr Perry Schurtz as health officer of Grand Rapids

MINNESOTA.

Pasteur Institute Report.—The Minnesota Pasteur Institute, Minneapolis, which was established in August last, has treated 161 cases since that time.

Tuberculosis Camp Ready.—Hopewell Park, the new tuberculosis camp established by the city of Minneapolis, is completed and ready to receive patients

Communicable Diseases.—Diphtheria is reported prevalent at Aurora ——Crookston has twenty two cases of typhoid fever and the disease is reported to be epidemic in Mankato, where the Catholic school adjoining St Joseph's Hospital has been converted into an emergency hospital

Personal.—Dr. Adolph O Bjelland has been elected president of the Mankato Anti Tuberculosis Society ——Dr Daniel C Darrow, Moorhead, was thrown from his buggy, July 2, sustaining painful cuts and bruises ——Dr. Archa E Wilcox, Minneapolis, has been appointed medical member of the board of charities and correction, vice Dr. Charles G. Weston, resigned.

MISSOURI.

Staff Assignments.—At the regular meeting of the board of control of Levering Hospital, Hannibal, the following assignments were made for the medical staff for the year Dr James N Baskett, physician in charge; Dr Thomas Chowning, attending surgeon; Drs Charles E Paxon and Henry L Banks, consultants: Dr John J Bourn, attending physician; Drs Robert H Goodier and Archie L Shanks, consultants; Dr Richard Schmidt, attending gynecologist, Drs Elmer E Waldo and Clifton R Dudley, St. Louis, consultants; Dr Edward H Bounds attending obstetrician and pediatrician; Drs I E Hill and W Cloyd Guss, consultants; Dr W Cloyd Guss, pathologist; Dr Ulysses S Smith, attending oculist and aurist; Drs Edward T Hornback and James S Howell, consultants, and Dr I E Hill, *x* ray specialist

NEW HAMPSHIRE.

Communicable Diseases.—Eight cases of diphtheria were reported in Manchester June 22 ——Epidemics of mumps and measles are reported in Gilford

Society Meeting.—At the annual meeting of Belknap County Medical Society, held in Laconia, June 1, Dr Albert J. LaFrance was elected president, Dr Edwin P Hodgon, Lakeport, vice president; Dr Alpha H Harriman, Laconia, secretary, and D T Bates Cook, Laconia, treasurer

Personal.—Dr Wallis D Walker, Portsmouth, has been appointed deputy medical referee, vice Dr William H. Nute, Exeter, resigned— –The medical and surgical staff of St Joseph's Hospital, Nashua, have elected the following officers: Dean, Dr Pierre E Danserеau, president, Dr A Wilfred Petit, and secretary, Dr James T. Greeley ——Dr. Charles E Congdom, Nashua, has been appointed medical referee of Hillsboro County, vice Dr James T. Greeley.——Dr. Herbert L Taylor, city physician of Portsmouth, has resigned.

In the Courts.—The jury in the superior court in the case of Drs Michael E Kean and Clarence M Dodge, Manchester, who sued for claims for medical treatment rendered Miss Laura J. Dunn, is said to have returned a verdict for the plaintiffs. Dr. Kean was awarded $457.80 and Dr. Dodge $116 65 ——Dr. William M. Richardson, Londonderry, filed a petition asking for an injunction that Dr. P. W. F. Corning be restrained from interfering with his territory and patients. Dr Richardson alleges that Dr. Corning agreed to take his practice for six months and then relinquish it, but that he failed to do the latter.

NEW JERSEY.

County Society Meetings.—At the annual meeting of the Warren County Medical Society, held in Belvidere, the following officers were elected· President, Dr Edward H. Moore, Asbury; vice president, Dr. Edgar N. Brasefield, Phillipsburg; secretary, Dr. William J. Burd, Belvidere; treasurer, Dr G. Wyckoff Cummins, Belvidere, and reporter, Dr. John H. Griffith, Phillipsburg ——Sussex County Medical Society, at its recent annual meeting, elected the following officers: President, Dr. Edward W. Jones, Layton; vice president, Dr. Enos E B Beatty, Newton; secretary, Dr Shepard Voorhees, Newton; treasurer, Dr Ephraim Morrison, Newton, and censors, Drs Lewis C. Burd. Ogdensburg, and Joseph G. Coleman, Hamburg ——The following officers were elected at the annual meeting of the Salem County Medical Society: President. Dr. Lester H. Hummel, Salem; vice president, Dr. John M. Summerill, Penn Grove; secretary-treasurer, Dr. Henry Chavanne, Salem; reporter, Dr. John F. Smith, Salem, and censor, Dr. William H. James, Pennsville.

NEW YORK.

County Tuberculosis Hospital.—The board of supervisors of Rensselaer County, at a meeting held in Troy, July 17, appropriated $25,000 for the erection of a hospital for advanced cases of tuberculosis, to accommodate 65 patients.

To Furnish Antitoxin.—The Health Department of New York City has shipped fifty horses to its sanitarium at Otisville which are to be used as antitoxin subjects Nineteen horses from the Borough of Brooklyn have been added to this number.

Communicable Diseases.—The churches of the town of Wheatfield are to be closed for two weeks and no public gatherings are to be held for the same period on account of the presence of at least 50 cases of smallpox in Niagara County. ——Elmira reports 20 cases of typhoid fever.

New York City.

War on Rabies.—Sixty special policemen have been detailed by the Board of Health for the purpose of destroying stray dogs. All dogs without muzzles or unleashed are to be considered as stray dogs. Whether the dog has a license or not is of no importance. The police are not required to report the number of dogs killed.

Mosquitoes Bred in New York.—The state entomologist of New Jersey resents the imputation that New York imports its mosquitoes from New Jersey. It is stated that the conditions at the mouth of the Bronx River are such as would furnish New York City with mosquitoes, and that it is more than possible that New York City furnishes the Palisade district in New Jersey.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended July 25, 400 cases of tuberculosis, with 173 deaths; 219 cases of measles, with 7 deaths; 175 cases of diphtheria, with 22 deaths; 131 cases of scarlet fever, with 9 deaths; 71 cases of typhoid fever, with 15 deaths; 14 cases of whooping cough, with 7 deaths; 12 cases of cerebrospinal meningitis, with 7 deaths, and 9 cases of varicella—a total of 1,031 cases and 240 deaths.

Advice on the Care of Babies.—A handsome cardboard folder containing instructions to mothers on the care of babies has been prepared by Dr. N. S. Macdonald and is being distributed at the Mothers' Seaside Rest at Coney Island. In a few days the booklet will be issued in Italian, Hebrew and German, and all churches, charity societies, missions, etc, are invited to take a supply for distribution. The subjects of infant feeding, clothing, fresh air, bathing, sleep and how to get aid in case of sickness are treated.

OHIO.

Cincinnati.

Dr. Culbertson's Will.—Under the will of the late Dr. James Coe Culbertson, his wife is given his interest in the *Lancet-Clinic*, his stocks, bonds and personal property. The estate is appraised at $20,000.

Report of Health Officer.—Dr. Mark Brown, health officer, in his annual report states that during 1907 there were 6,414 deaths, a decrease of 781 as compared with the preceding year, equivalent to 16 88 per 1,000. The highest mortality was in March, the lowest in October, and the average monthly mortality was 534. Almost 30 per cent. of the deaths occurred in public institutions. During the year 6,014 births were reported, 373 less than the number of deaths, which is accounted for by the fact that many deaths during the year were not reported to the department of health. Hundreds of school children were sent home on account of contagious diseases, and thousands were recommended for treatment. Defective eyesight was found in 3,184 cases; diseases of the eye in 502; defective hearing in 272; otitis media in 190; hypertrophied tonsils in 1,918; adenoids in 486, and tonsillitis in 459

PENNSYLVANIA.

Personal.—Dr. Fremont W. Frankhauser, Reading, has recovered after several weeks' confinement, due to an infected eye ——Dr. Janet H Sherman, assistant physician at the insane hospital at Norristown, has resigned on account of ill health. ——Dr. Samuel D. Shull, Chambersburg, has been appointed resident physician at the Frankford Hospital, Philadelphia.

Advisory Board Appointed.—The mayor of Pittsburg has appointed an advisory board to assist the typhoid fever commission recently appointed to investigate the cause of the disease in the city. Dr. James F. Edwards, superintendent of the bureau of health, is chairman of the committee, and Dr. Eugene G. Matson, city bacteriologist, has the management of the investigation.

Sewage to be Kept from River.—Dr. Samuel G. Dixon, state commissioner of health, has begun his crusade against the pollution of the north branch of the Susquehanna River by ordering Danville to erect a sewage plant and submit the plans to the State Health Department. The plant is to be in operation by July, 1910. For several years Danville has been subject to epidemics of typhoid fever, and the town is scarcely ever without the disease. The source of the infection is said to be the river water, which is known to be polluted by sewage.

Society Meetings.—At the annual meeting of the Lehigh Valley Medical Society, held in Delaware Water Gap, July 9, Dr. Adam L. Kotz was elected president, and Dr. J. Anson Singer, East Stroudsburg, vice-president.——The physicians of Apollo, Vandergrift, Vandergrift Heights and Leechburg have organized a medical society, with Dr. Joseph D. Orr, Leechburg, as president; Dr. Thomas J. Henry, Apollo, vice-president; Dr. Joseph C. Stahlman, Vandergrift, secretary; and Dr. John C. Hunter, Apollo, treasurer.——Carbon County Medical Society has elected the following officers: President, Dr. Allen W. Catterson, Palmerton; vice-president, Dr. J. H. Young; secretary-treasurer, Dr. James B. Tweedle, Weatherly; and censors, Drs. William H. Clewell, Summit Hill, Wilson P. Long, Weatherly, and William W. Reber, Lehighton.

Philadelphia.

Phipps' Institute to Move.—It is asserted that the Henry Phipps Institute for the Prevention and Cure of Tuberculosis will move from this city. This step is taken, it is said, by the prohibitive prices asked for the properties that the institution has tried to procure.

Personal.—Dr. Theodore Le Boutillier has been appointed clinical professor of pediatrics in the Woman's Medical College of Pennsylvania.——Dr. John H. Musser has been made chairman of the American committee for the sixteenth International Medical Congress.——The following physicians have gone to Europe: Drs. Albert P. Francine, Gordon M. Christine, Hermann Heller, Othmar Barthmaier, J. T. Lippincott, Frank O. Nagel, M. S. Lowenstein, G. Hudson Makuen, Harvey E. Schock, E. A. Shumway, Alexis D. Smith and Emil M. Welty.

Publication of Poison Prescriptions.—At a recent meeting of the Philadelphia Association of Retail Druggists the matters of newspapers publishing prescriptions containing cocain, strychnin and digitalis was thoroughly discussed, and it was pointed out that to fill these was against the law, besides being dangerous to the public. On motion the press committee of the association was requested to call on the publishers of the *Record* and the *Evening Telegraph* and call their attention to the facts of the case, with a view of having them discontinue the practice.

GENERAL.

Coming Meeting.—The twenty-first annual meeting of the Medical Society of the Missouri Valley will be held at Council Bluffs, Iowa, under the presidency of Dr. William F. Milroy, Omaha, September 3 and 4. The oration on medicine is to be given by Dr. C. H. Hardin, Kansas City.

Scarlet Fever on Warship.—Several cases of scarlet fever developed on the United States battleship *Nebraska* on her cruise from San Francisco to Honolulu. The patients have been transferred to the hospital ship *Relief*, and the *Nebraska* was isolated while coaling at Honolulu.

Medical Association Meetings.—The twenty-third annual meeting and ladies' night of the White River Medical Association was held in White River Junction May 20. The following officers were elected: Dr. Frederick von Tobel, Lebanon, N. H., president; Dr. Frederick T. Kidder, Woodstock, vice-president; Dr. James A. Leet, Enfield, N. H., secretary-treasurer, and Drs. Isaac N. Fowler, Lebanon, N. H., E. C. Carleton, and D. S. Drake, censors.——The Iowa-Illinois District Medical Association held its annual meeting in Geneseo, Ill., July 16, under the presidency of Dr. George E. Decker, Davenport, Iowa. The following officers were elected: President, Dr. Frank H. First, Rock Island, Ill.; vice-president, Dr. George M. Middleton, Davenport; secretary, Dr. Charles S. Young, Geneseo, and treasurer, Dr. Theodore W. Kemmerer, Davenport, Iowa.

Pure Food and Drugs Congress.—The First International Congress for the Repression of Adulteration of Alimentary and Pharmaceutical Products will be held in Geneva, Sept. 8, 1908. There are already many members from the United States, but it is desirable to have the largest representation possible from this country. The congress is held under the auspices of the White Cross Society and the Swiss government. The fee for membership is $4.00. Dr. H. W. Wiley of Washington, D. C., chairman of the American committee, will forward names of members and their subscriptions and will give further particulars of the congress to those who request it. Reduced rates will be given on steamship lines and on European railroads. Intending members are urged to send in their subscription at once.

CANADA.

The Opium Traffic in Canada.—From the report of Mr. McKenzie King, deputy minister of labor at Ottawa, which he recently issued, the opium traffic in Canada has its chief seat on the Pacific Coast. In three Canadian cities there are at least seven factories whose combined receipts for 1907 were between $600,000 and $650,000. The crude opium is imported in cocoanut shells and is manufactured first into powdered opium and afterward into opium prepared for smoking. Most of the manufactured article is consumed by the Chinese themselves in Canada, but the consumption is increasing among the white people, while some finds its way surreptitiously into the United States. It is likely that the government will soon take the importation and sale of opium into its own hands.

Hospital News.—Dr. J. N. E. Brown, superintendent of the Toronto General Hospital, and Dr. R. W. Bruce Smith, inspector of hospitals in Ontario, have gone to Europe to study the most recent and modern methods of hospital construction and equipment. preparatory to the erection and equipment of the new Toronto General Hospital.——The Toronto Orthopedic Hospital recently held its annual meeting for 1907 and has issued a decennial report for 1898-1908. The institution was founded in the former year; and this is the only hospital in Canada devoted exclusively to the treatment of the lame, ruptured, crippled and deformed. In the 10 years there have been more than 2,500 admissions, with but 11 deaths from all causes during that time. Over 2,000 operations have been performed.

FOREIGN.

French Surgical Congress.—The twenty-first French Surgical Congress convenes this year at Paris, October 5. The questions to be discussed are: "Surgery of the Biliary Passages"; "Surgical Treatment of Cavities of Pathologic Origin," and "Surgical Treatment of Facial Neuralgia."

Sleeping Sickness Pamphlet.—On account of the prevalence of sleeping sickness in equatorial Africa, the French minister of the Colonies has distributed a pamphlet prepared by Dr. A. Kermorgant, inspector general of the colonial sanitary service, setting forth the prophylaxis of the disease. It is printed in French and in the different dialects spoken in the colonies.

Assault on Professor Marie of Paris.—A former patient at the Villejuif insane asylum returned after his discharge and shot the physician-in-chief, the eminent alienist, Prof. A. Marie, last month, one bullet entering the chest and another the thigh, but neither doing much harm. Both bullets were removed at once, and Marie is not considered in danger. He recently assumed the editorship of the *Archives de Neurologie.*

The Annual Meeting of the Leipsic League.—The eighth general meeting of the Association to Promote the Economic Interests of German Physicians was held in June at Danzig. It was announced that the association has successfully arrange 155 cases of conflict between the medical and executive officer of the sickness insurance companies, and 122 are still pend ing. The long conflict at Cologne is nearing its end, as th company can not obtain medical aid outside the associatio adequate for its purposes. More medical positions were regis tered during the year than there were applicants, but 2,53 places were filled by the intermediation of the association. O the other hand, there were far more inquiries for locations fc general practice than there were places.

French Practitioners' Congress.—For the second time th rank and file of the profession have assembled to discuss mat ters concerning medical education and the material interest of practicing physicians. The Second Practitioners' Congres met at Lille, June 25, with 1,500 members in attendance, includ ing delegates representing over 7,500 other physicians—a trul national gathering. The necessity for reform in the presen system of medical education in France was the main subjec discussed, but much light was thrown on other themes by th various addresses, especially the dispensary and hospital abus by the well-to-do, medicolegal testimony, etc. The best fruit of these congresses, however, are said to be the growth of th spirit of organization, the welding of the profession into solid body, the realization of the fact that the needs and aim of one are the needs and aims of all, and that by organizin they can be obtained and realized.

LONDON LETTER.

(From Our Regular Correspondent.)

London, July 25, 1908.

Open Air Schools.

The London County Council is extending the scheme of open-air education which they introduced about a year ago for the benefit of delicate children. The first open-air school was conducted in Bostall-wood, Plumstead, from July 22 to October 19, last year, as an experiment and proved a marked success. While this school administered to the educational and hygienic requirements of 49 boys and 64 girls for a period of three months, it is now proposed to run for a period of five months three such schools, each capable of accommodating 75 children. The children will be divided into three classes of 25 each. The staff will consist of one head teacher, three assistant teachers, a nurse, a cook, a cook's helper, and a school-keeper. The cost of feeding the children is about 70 cents a head each week. This is paid by the parents when they are able to do so; when they can not, it is paid partially or entirely out of voluntary funds. In last year's experiment, every child was benefited physically and the improvement was greater than could have been anticipated. The children were suffering, in the main, from the debilitating conditions which arise from city life. The commonest ailments were anemia, enlarged cervical glands, adenoids, and hypertrophied tonsils. Children who were admitted suffering from active disease, showed gratifying improvement. Dr. Sears, the medical officer, in his report says: "The general effect of the open-air school life on the children was easily discernible in their improved color and less restrained demeanor. They seemed brighter and more full of spirits at the end of the school day than at their commencement. Their movements were brighter and their intellects were keener as a result of their attendance at the school."

Women Refused Admission to the Royal College of Surgeons.

The result of the poll of the fellows and members regarding the admission of women to examination for the diplomas of membership and fellowship of the Royal College of Surgeons is as follows: A majority of 415 against admission of women to the membership and a majority of 1,182 against their admission to the fellowship. The votes of the fellows taken separately showed a majority of 288 in favor of admitting women to the membership and a majority of 34 in favor of admitting them to the fellowship. The votes of the members taken separately showed a majority of 703 against admitting women to the membership and a majority of 1,216 against admitting them to the fellowship. Of the fellows 1,043 voted out of 1,373 available; 8,543 members out of 13,800 available. The report on this subject will be considered by the council in October. It is noteworthy that the fellows, who are all surgeons of some eminence, should, on the whole, favor the admission of women, while the members, who are almost all general practitioners and the rank and file of the profession, should favor the refusal.

BERLIN LETTER.

(From Our Regular Correspondent.)

Berlin, July 1, 1908.

The Study of Medicine by Women in Germany.

The study of medicine by women is with us in Germany much more recent and less extensive than with you. While in the United States, according to the information that has reached us, thousands of women physicians are in practice, with us the feminine colleagues are numbered only by hundreds. This, I might say, is fortunate from the standpoint of the German physicians, who, as I have formerly shown, are as a whole engaged in a hard enough struggle for their living. The opposition of physicians to the pursuit of medical studies by women was, therefore, for some years strong, for the reason that a reduction of income was feared from the new competition. But it is an old experience that new ideas, if they are right in principle, in the end prevail in spite of all opposition, and if we wish to be impartial we must accord to medical study by women an essential justification.

It must be admitted that women have a right to an independent economic life, and that those who find no matrimonial home are entitled to choose their own occupation. That this choice of calling should extend to the professions we must admit. It is not of value to attempt to show that women have not accomplished anything important in the fields in which they have hitherto labored. Women, as a rule, take up a profession merely to have a good purpose in life.

After long delay the German government has taken notice of these considerations. After repeated petitions women were finally admitted to the study of medicine in the German universities by a decree of the imperial chancellor in April, 1899. Even to-day they do not possess complete equality with men in all the German states, since some admit women not as really matriculated students, but simply as listeners (Gasthörerinnen). This is especially true of Prussia, but it is to be expected that this barrier will be removed at the next semester.

Of other states one need only mention Mecklenburg-Schwerin, Hesse, Sachsen-Weimar, Alsace-Lorraine as those in which women hitherto have been permitted to study only as listeners. In these states it is placed at the option of the individual professors whether they will permit women to participate in their lectures or not. It is certain that after Prussia has decided to remove the limitations the other states will soon follow, so that women can matriculate at all the German universities on equal terms with men. They may, it should be repeated, take the state examination for the doctor's degree at any German university. At present there are about 400 women as students at all the German universities.

Relations of Professors at the German Universities.

At the close of this semester Professor Quincke will resign his office as director of the medical clinic at Kiel. In this action one of our most eminent professors takes leave of his activity as a teacher. The number of great investigators, to whom the German medical faculties in the second half of the last century owed their prosperity, is now reduced to a small fraction. What brilliant stars have been extinguished in the course of the last two decades from the firmament of German medical science! Virchow, Helmholtz, Du Bois-Reymond, v. Graefe, Volkmann, Langenbeck, Mikulicz, v. Bergmann, Kölliker and many others are gone. If we consider with strict disinterestedness and critical judgment the generation that has followed these men, we must admit that they do not come up to their predecessors in importance. To be sure, many a younger professor may yet win fame for himself, but the hope for it—as must be admitted—is not very great according to the developments so far. This assumption is strengthened by the observation that our age is not so rich in the lights of science as the foregoing. The same phenomenon shows itself in the other departments of science as well as in medicine. Only in technic and that part of the natural sciences closely related to it are there at the present day a not inconsiderable number of eminent men. This observation is true not only of Germany, but of all civilized countries.

Professor Quincke resigns his place not at the request of the government, but of his own free will. The government in Germany has not the power to remove a professor against his will except when he has been guilty of a serious offence. In Austria the university professors are required by law to retire at the age of 69; there is a so-called age limit. As an honor some of them are permitted to hold their positions another year. It has been a matter of discussion whether such a legal arrangement would not be desirable in Germany, and there is much in favor of it. Few professors have the self-knowledge and the energy to give up their position of their own free will at the moment when intellectual decadence sets in; on the other hand, it is not easy for the government to come to the determination to make known to a meritorious scholar the necessity of his leaving his place. In this way it has been, and still is, our experience that eminent scientists remain in their offices when their intellectual capacity—more important, their ability to teach—make them no longer fit for their positions, which is naturally a disadvantage for the university to which they belong. This was already noticeable with Virchow, and also of v. Leyden it can be truly said that he remained in his place a year longer than was agreeable to the government or to the students. And there are in the German universities, especially in the Berlin university, professors of great reputation (I do not wish to mention names) who it is true still do scientific work to some extent, but no longer fulfill their duty as teachers. In view of these facts, we might wish, in the interests of education, that our government was a little less considerate in personal questions. Such a "golden inconsiderateness" was possessed by the former "ministerial director," Althoff, in a high degree, for which he was naturally blamed in certain quarters. But, although he doubtless overshot the mark in many cases in consequence of his zeal, he knew how to do the right thing generally, and placed business above personal matters.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(Continued from page 421.)

XX. THE CRITICS OF THE COUNCIL.

The preceding papers of this series have been devoted so largely to condemnation and denunciation, that the work and purposes of the Council may have appeared mainly condemnatory and destructive. This would be far from the truth; for the purposes of the Council are wholly constructive. The actual work, it is true, has been and still is to a considerable extent destructive; but this is merely an incident in the broader aims, and I hope sincerely that the need for it is only temporary.

Much of the matter with which the Council has been concerned was so unsound as to be unsuited for constructive work. A thorough-going trimming, an efficient house-cleaning, was the first necessity. Constructive work has been going on at the same time; but it could scarcely be noticed until the ground had been, at least partially, cleared by the removal of some of the unsound débris. In fact, the Council has tried to utilize even this destructive work for reconstruction. In exposing what was bad, it has attempted to indicate what was good. In condemning a product, it has aimed to point out the way to reformation. In exposing the false pretenses and questionable or dishonest practices of certain manufacturers it has endeavored to foster a sentiment which would place a profitable premium on true, safe and conservative statements; a sentiment which would make it possible to conduct the business of purveying medicines on the highest professional plane.

IMPOSSIBLE TO PLEASE ALL.

It would be quite too much to expect that the Council should perform its complex tasks to the absolute satisfaction of all those, even, who are in sincere sympathy with its aims. Some will always think that it does not go far enough or fast enough; others, that it goes too far or too fast.

Those who think that the Council goes too slowly, should remember that the results of evolution are more permanent than the results of revolution; and that education is more effective than dictation. Education and evolution both require time; but their results are lasting.

Those who consider that the Council has gone too far; that some of its rulings are needlessly severe; that it has in some instances spoken sharply when a soft voice might perhaps have reached as far—should remember that the Council does not deal solely with people who want to do the right thing. It has, unfortunately, all too often to do with people who try to do the wrong thing. The functions of the policeman can not always be performed in a perfectly lady-like manner; and those who are mixed up with a bad mob must expect to receive some incidental raps, for which the policeman, in private, is sincerely sorry.

Both classes of critics should remember that the Council is seriously judging and acting on pressing questions of great complexity and far-reaching importance. Its fund of information and experience for this purpose is probably more extensive than that of any of its critics. I do not pretend, of course, that the Council knows more about a particular product than does its manufacturer; but it would be strange indeed if the Council had not arrived at a broader conception than its critics of the intricate ramifications of the general problem which has been its daily concern for over three years. The critic usually has in mind only one product, or one particular phase of the problem. The Council, on the other hand, must endeavor to look on that product or that phase in the light of all the products and of the whole problem.

THE THERAPEUTICALLY-SUGGESTIVE NAME.

The vexing question of therapeutically-suggestive names may serve as an illustration. Of the several serious objections to these names, the most conspicuous is that they encourage self-medication. The better class of manufacturers now agree with the Council that such a name as "Rheumatica" would be equivalent to advertising to the laity. The Council, on the other hand, might be willing to concede that such a name as "Arthrica" would be without meaning to the public, and might from this standpoint, be admissible. Sooner or later, however, the name "Arthritica" would be submitted. Who can predict how many educated laymen would come to understand what this means? Evidently no one. The manufacturer of "Arthritica," however, would point to "Arthrica" as a precedent; and if "Arthritica" were accepted, it would be very difficult to explain to the manufacturer of "Rheumatica" why his product should be refused. The manufacturer of "Arthrica" has not considered these intermediate cases, which make it impossible to draw a natural line of division. The only safe way to prevent burned fingers is to keep away entirely from the fire.

(To be continued.)

MANOLA.

Nostrum Prescribing and Its Results.

MUSCODA, WIS., July 31, 1908.

To the Editor:—Enclosed is a copy of a letter sent to Dr. X. of Y., and his reply in the form of a marked advertisement of Manola clipped from a medical (?) journal. The style of the advertisement sent would lead one to classify the product with "Peruna and the Bracers." The preparation was prescribed by Dr. X. for a Mr. Q., for a cough and "run-down" condition. Q. has been unable to do any work since he began taking it, but for three months he thought it benefited him, after which time he stopped taking it for three months and then took it again for five weeks. As he was emaciating rapidly and was troubled with high fever and night sweats, he came to me, and I found him in an advanced stage of pulmonary tuberculosis. The patient had wasted nearly eight months of precious time, closely housed and depending on the restorative virtues of Manola, instead of consulting a physician at a time when a properly regulated out-of-door life might have saved him. And all because Dr. X. prescribed Manola to be taken for several months.

Who is Dr. X. who did the prescribing? Polk's Register, 1906, records him as a graduate of a university in Germany; surgeon for the C., M. & St. P. Railway Company; member of the American Medical Association; member of the American Association of Railway Surgeons; member of the state historical society; medical examiner, etc. Shades of Æsculapius! This young man, now near death's door, asked me if Manola was not a good medicine, for, said he, "Dr. X., a very prominent physician, prescribed it to be taken continuously for a long time." And what could I, an insignificant doctor, reply? I said, "I don't know. I have not used it." And then I wished that I belonged to some other profession whose members are not "suckers" to bite at the bait of drug promoters and thus help them to fleece innocent persons while on the road to chronic invalidism and death. C. R. PICKERING, M.D.

COMMENT: The above is only one example—a typical one, however—of the results of nostrum prescribing. The physician who in the above instance prescribed Manola—an old practitioner, over 70 years of age—when asked by another practitioner for information regarding it, has to fall back on an advertisement. This is what the advertisement says:

> "New strength can be given to the failing heart, tissue changes arrested, and senile decay indefinitely postponed by the prescription of MANOLA which furnishes to the exhausted cell protoplasm the inorganic elements necessary for a renewed and increased activity, improves the quality and quantity of the blood, supports the heart, tones up the nerves.

induces refreshing sleep, and checks the decline of mental and bodily vigor.

"Manola can be depended on in all cases of loss of strength and weight in old and young alike."

A wonderful remedy, truly, that will do all this. Evidently Ponce de Leon in his search for the fountain of eternal youth labored under the insuperable disadvantage of being born 400 years too soon. Had he but known, the fluid he sought, which "indefinitely postpones senile decay" and "checks the decline of mental and bodily vigor" was to be found, not in the untrodden wilds of Florida early in the sixteenth century but in the "laboratory" of a nostrum manufacturer four centuries later.

Had this advertisement appeared in a newspaper and had one of Dr. X's patients consulted him regarding taking this "patent medicine"—for now it would be a "patent medicine"—he would most certainly have told the patient that it was foolish to believe such rubbish and not to waste his money on the stuff. And yet "Dr." Hartmann in his wildest flights of Perunaese oratory has never transcended in mendacious assertiveness the claims made for this "strictly ethical preparation."

Three years ago[1] we exposed the methods by which this nostrum was exploited, and concluded: "Here we have the doctor not only used as an unpaid peddler for a secret remedy, but also as a club to make the druggist fill his shelves with the stuff. . . . Certainly, it can not get much worse, unless the nostrum manufacturers get the doctor to go on the street and peddle their stuff on a percentage."

Manola illustrates another point: One of the curses connected with the nostrum business is the fact that many of the preparations are exploited by pseudo-pharmacal and pseudo-chemical companies. The Manola Company is reported as a side affair, and controlled by those who own the Luyties Homeopathic Pharmacy Company of St. Louis. What is the reason for creating a special company to exploit this nostrum? Is it because physicians might be prejudiced and not willing to buy from a homeopathic concern, or is it because the concern itself wishes to retain at least the outward semblance of *decency*?

The above case brings out another evil inseparable from nostrums. While the great majority are useless and most of them innocuous, they do harm in a negative way. The layman, depending on the advertisements in the newspapers and believing what the advertisements state, takes a "patent medicine" and delays consulting a physician until too late. In the case of a physician, he, too, believes what the advertisement says, takes it for granted that he is doing what is right, neglects to study his case, to make a correct diagnosis, and to follow up the treatment by careful study of the case as it progresses.

In a case like the above nothing can relieve the physician of his responsibility; he can not fall back on the advertisement. In the case of the patient taking a "patent medicine," he depends on his own judgment. In the case in question, the patient depended on one whom he believed knew what should be done. And the physician was false to his trust!!

Correspondence

Collapse Following Injection of Diphtheria Antitoxin.

KÖNIGSBERG, GERMANY, July 14, 1908.

To the Editor:—Dr. F. W. Thomas' article on "Sudden Collapse Following Injection of Diphtheria Antitoxin," in THE JOURNAL, July 4, leads me to report a similar experience.

J. F., a boy of 13, fairly tall and well developed, had always been in good health. On Jan. 27, 1907, I was called to see his sister, aged 11, who was suffering from an ordinary attack of faucial diphtheria. I gave her at once 3,000 units of antitoxin. The next morning at 10 o'clock I called and administered 1,000 units to each of the other two children—that is, to J. F. and his sister of 6 years—as an immunizing dose.

Immediately after I had injected the dose in the subcapsular region of the boy he fell over, unconscious and pallid, in a cold sweat, with pupils dilated and with no radial pulse. I gave him hypodermically strychnin, gr. 1/30, and whisky, induced artificial respiration and after ten minutes (it seemed hours) he recovered consciousness. He was intensely weak and, of course, remembered nothing of what had occurred. When asked if the pain of the injection had made him faint he said that he had scarcely felt it. I left him about 11:30 a. m. At 2:30 p. m. I was called again hurriedly and found him just about recovering from a similar attack. He had attempted to walk up to the next floor when, without warning, he fell at the foot of the stairs. With the usual restoratives he recovered and, though under observation for several days, had no further trouble.

His little sister of 6 years and the one of 11 years had no such experience, although receiving part of the same batch of antitoxin.

What happened? Were the serum at fault, the other two children ought to have shown some effects from it, and, as antitoxin is always manufactured in large quantities, we should have learned of other similar cases in the district. My belief is that I emptied the entire contents of the syringe into the lumen of a vein, and that the collapse was entirely due to the sudden entrance of a large quantity of foreign fluid into the blood stream. This explanation fits Dr. Thomas' case, too. He had the unpleasant symptoms only after the first injection, although he gave five more within the next twenty-two hours. His patient's poor previous condition accounts for his having recovered more slowly than did my patient. It is also to be assumed that Dr. Thomas used the same quality of antitoxin in all his injections.

Considering the enormous number of times this drug is administered, it is surprising that such accidents have not occurred more frequently. With a crying and struggling child we are apt to plunge the needle almost anywhere and as quickly as possible press the piston home. As the ordinary dose contains one to five cubic centimeters of serum the sudden entrance of this amount into the blood current is bound to have a profoundly depressing effect on the heart. A far safer way would be to take from two to three minutes while injecting and thus avoid experiences such as the above, which are far from pleasant.

ISAAC M. HELLER.

Surgery of Ureteral Calculus.

BOSTON, MASS., July 28, 1908.

To the Editor:—In my article, "The Surgical Treatment of Ureteral Calculus in the Female," in THE JOURNAL, Sept. 28, 1907, there is a short historical summary of the various operations for the removal of stones in the ureter.

I find that I have quite unintentionally omitted in discussing the vaginal route for the removal of stones, to give to Dr. Arthur T. Cabot, of Boston, Mass., due credit for having been one of the pioneers in this field. It was really owing to Dr. Cabot's work that the vaginal route was popularized. In 1884, Emmet ("Principles and Practice of Gynecology," 1884, p. 796) removed a stone through the vagina of a woman by vaginal incision. Emmet found the stone close to the bladder opening of the ureter. At that time Emmet stated that stones situated near the cervix, high up in the vault of the vagina, had better not be approached by the vaginal route because of the danger of opening the peritoneal cavity. Cabot (*Am. Jour. Med. Sc.*, January, 1892, ciii), however, found by dissections that it was safe to attack stones under the broad ligament, and he reported a case in which this operation was done. To quote from his article, "In the female we have even readier access to this part of the ureter through the vagina. The ureter in the last two or even in some cases three inches of its course runs in the broad ligament in close relation to the upper part of the vault of the vagina, where it can be reached and incised without danger of opening the peritoneum." I find also that I have given to Kelly ("Operative Gynecology," Oct. 2, 1906, p. 541) the credit for using a hook to facilitate the removal of the stone. Cabot (loc. cit.) was the first to recommend this maneuver, and he reports a case in which it was of service.

EDGAR GARCEAU.

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[1] THE JOURNAL A. M. A., May 6, 1905, p 1462, and Propaganda for Reform in Proprietary Medicines, Fourth Edition, p. 91.

Second Leprosy Conference.

New Orleans, July 27, 1908.

To the Editor:—In 1897 medical men met in Berlin under the auspices of the German government to study the conditions of leprosy throughout the world. The success of that meeting and the results which followed it have led to another such meeting to be held in August, 1909, at Bergen, Norway, under the auspices of the Norwegian government. It is believed by those in charge of the preliminary program that many members of the profession who are not specialists in this disease would be glad to take part in such a conference as the one proposed, which will deal not only with the pathology, treatment and scientific investigation of the disease, but also with the questions of topography and sanitary measures as applied to leprosy. A list is desired of physicians interested in the question of leprosy in any way. A communication addressed to Dr. Armauer Hansen, Bergen, Norway, or to the undersigned, will secure any published notice, program, etc. Isidore Dyer, M.D., 124 Baronne Street.

Miscellany

How to Remove the Blight on the Medical Press.—At the recent Congress for Internal Medicine at Vienna the president, F. von Müller of Munich, appealed to the profession to check the overproduction of articles for the medical press. Especially in internal medicine the periodical literature has assumed such dimensions, he said, that no one can keep an oversight over it all. Even well-endowed libraries are no longer able to subscribe for all the journals relating to internal medicine and its allied sciences. He added that it is not possible to centralize by a congress resolution the periodical literature on medicine according to the model that has been set by chemistry. But the present unbearable conditions can be improved if all factors will work together; authors by restricting what they write to what is really important for the reader; editors by sharply drawing the line between what must be printed and what may be printed, by insisting on condensing and striking out everything that it is superfluous to print. He appeals also to publishing houses, urging them not to found new journals, unless they respond to an actual demand. He added that this might conflict with material interests, but that there are forces above material interests, and he appealed to these for all concerned.

Schwalbe comments on his words in the *Deutsche med. Wchnschr.*, June 4, saying that it is too much to hope for an echo from the publishing houses to this appeal to ideal forces, as they are money-making concerns. But physicians can do much, especially those who may be called on to spread their names on the title page of some new journal, surrounded by the halo of the wealthy patron of science.

He remarks that many professors thus allow their names to appear as a signboard for half a dozen more or less obscure journals; so that while disclaiming all responsibility for the contents of the journal sailing under their name, they do not find it repugnant to serve as a bait to snare subscribers and advertisers. If an editor is unable to find a patron of this kind at home he goes across the border or—as an editor with considerable business talent has recently done there—he secures the name of some medical member of a reigning house. And colleagues are found who are attracted to these "titled" sheets and send in their subscriptions! Advertisers are won in the same way.

He continues that few physicians have any conception of the fraud in the figures published in regard to the circulation of such journals, especially the list of actual subscribers in proportion to their announced edition. Many journals require a still stronger elixir to keep them alive, and they find this in medical write-ups, with or without the connivance of the editor. In this way journals are founded and flourish, they change publishing house and editor from time to time, but there is no change in the harm they do. And some of them rejoice in the protection of "publishers" with high-sounding names.

All these "publishers" should take Müller's appeal to heart, he continues; they nearly all belong to academic circles and should have special regard for the ideals of our science. He urges hospital directors and clinicians to restrain as much as possible the zeal of their assistants to earn their spurs in medical literature and begs all to refrain from publishing anything until it has been sufficiently controlled and is really ripe for public announcement. When a new method or new remedy comes out it is not necessary to have every hospital and clinic in the land publish its experience with the method or remedy. When it has once been thoroughly written up nothing further should be published on the subject, unless it presents a material contribution for or against. The same communication should not appear several times; in a thesis, in a *Centralblatt*, in society proceedings, at a congress and again, possibly, at an international congress. Schwalbe urges further restriction of the "horrible tapeworm articles," saying that if the reader is not convinced by three case histories, nothing more will be gained by two dozen. The bibliography should only be added when it is indispensable for the argument. In regard to the editorial censorship, he exclaims that very few authors welcome any change in their articles. They mostly regard every suggestion of the editor in regard to shortening their articles as a crime of lèse majesté. He has found that the editor is considered of so little importance that his OK is assumed to be a mere formality, and authors send their articles direct to the printer of the journal. Even Virchow had this to contend with. Others merely announce the title of their article and are insulted when told that the article itself must be seen before it can be accepted or declined. Rejected articles may find hospitality in some of the newly founded journals, but these periodicals would soon die a natural death if all their material was second rate. Consequently they manage to secure an article occasionally from some leading man whose good nature impels him to use his pen and his ink as a stimulant to revive or keep alive some of these weakly journals. If these men will take Müller's words to heart, great good will be accomplished, and the present evil conditions will soonest show signs of improvement.

Schwalbe decries further the custom of publishing an article simultaneously in a home and foreign journal, and he suggests that it might not be a bad plan if some of the communications presented at medical congresses could be gone over by some skilled editor before they were presented, to eliminate the superfluous.

International Congress on Tuberculosis.—Dr. John S. Fulton, Colorado Building, Washington, D. C., secretary-general of the International Congress on Tuberculosis, announces the provisional program for Section 2 of this congress, on "Clinical Study and Therapy of Tuberculosis—Sanatoria, Hospitals and Dispensaries." Dr. Vincent Y. Bowditch, Boston, the president of the section, will deliver an address at the opening of the session, Monday, Sept. 29, 1908, and the following program is offered:

Duration of the Actively Infectious Stage. Robert N. Willson and Randle C. Rosenberger, Philadelphia.
Mixed Infections. M. P. Ravenel, Madison, Wis.; Arnold C. Klebs, Chicago.
The *X*-Ray. Francis H. Williams, Boston.
Opsonic Index. T. W. Hastings, New York.

Tuesday, Sept. 29, Symposium on Diagnosis and Treatment of Early Tuberculosis.

Under this head the following topics will be presented: Vital importance of early diagnosis; neglect of thorough examination to be condemned; comparative importance *of treatment* in sanatoria near at hand and of entire change of climate; the present status of sanatorium treatment; *x*-ray in diagnosis; short exposure roentgenography in early diagnosis; *opsonic index* in early diagnosis; cutaneous, conjunctival, and ophthalmic reactions; present status of serum diagnosis; early diagnosis by laboratory aids; hemoptysis as a *system of* early pulmonary disease; physiologic effects of residence in high altitudes; high altitude treatment in regard to fever; diet in pulmonary tuberculosis.

Papers on the topics *enumerated* will be read by the following: Frederick I. Knight, Boston; C. Theodore Williams, London; Carroll E. Edson, Denver; Lawrence F. Flick, Philadelphia; Francis H. Williams, Boston; Henry Hulst, Grand Rapids, Mich.; George P. Sanborn, Boston; Arnold C. Klebs, *Chicago*; C. von Pirquet, Vienna; A. Wolff-Eisner, Berlin; Fernand Arloing, Lyons; Paul Courmont, Lyons; E. R. Baldwin, Saranac Lake, N. Y.; James M. Anders, Philadelphia; N. Zuntz, Berlin; O. Amrein, Arosa, Switzerland; Irving Fisher, New Haven; R. C. Newton, Montclair, N. Y.; Noel Bardswell, Midhurst, Eng.

Wednesday, Sept 30, Symposium on Specific Therapy of Pulmonary Tuberculosis

1 Tuberculin and its Derivatives

Treatment by Tuberculins, More Especially by Tuberculin Bernaeck E Bernaeck, Neuchatel

Value and Practicability of Tuberculin Treatment K Hammer, Heidelberg, J. Denys, Louvain

Human and Bovine Tuberculosis, with Special Reference to Treatment by Tuberculin Nathan Raw, Liverpool

Specific Therapy J. Petruschky, Danzig; Edward L Trudeau, Saranac Lake, N Y.

2. Serum Treatment.

Marmorek Serum Alexandre Marmorek, Paris

Maragliano Serum E Maragliano, Geneva

Periostitis et Adipositis Tuberculosa Toxica Multiplex Treated with Serum Marmorek. O Amrein, Arosa, Switzerland

Maragliano Treatment at the Phipps Institute. L F. Flick, Philadelphia

Untoward Effects Following the Use of Maragliano's Serum. H. R M. Landis, Philadelphia.

Thursday Oct 1, 1908 Symposium on Sanatoria, Hospitals, Dispensaries and Home Treatment for the Tuberculous

Treatment and Isolation of Tuberculous Patients in General Hospitals Louis Landouzy, Paris, Maurice Letulle, Paris

Cost of Construction and Maintenance of Sanatoria, Class of Cases Suitable; Comparative Value of Sanatoria, Hospitals, etc Gotthold Pannwitz, Berlin, Arthur Latham, London

Cost and Maintenance of Sanatoria, Special Reference to Those Established by Insurance Companies Richard Freund, Berlin.

Graduated Labor in the Treatment of Tuberculosis. M S. Paterson, Frimley Sanatorium, Eng

Effect of Manual Labor on the Opsonic Index. A. C. Inman, Brompton Hospital, Eng

Comparative Value of Rest and Exercise in the Treatment of Tuberculosis F M Pottenger, Monrovia, Calif.

Value and Technic of Rest in Tuberculosis Norman Bridge, Los Angeles, Calif

Ultimate Results of Sanatorium Treatment. Lawrason Brown, Saranac Lake

The Establishment of Dispensaries in Cities and Towns R W Philip, Edinburgh

Dispensaries for the Prevention of Tuberculosis and Their Object Albert Calmette, Lille

Dispensary Examinations of Tuberculous Families; Their Results and Their Significance in the Systematic Combat Against Tuberculosis A. Kayserling, Berlin

Work of the Chicago Tuberculosis Institute Alexander M Wilson, Chicago

Comparative Value of the Dispensary and the Sanatorium Treatment of the Tuberculous Fritz Egger, Basel

Accommodation of Pulmonary Patients of Advanced Stage Director Mayer, Brandenburg, Berlin

Urgent Necessity for Hospitals for Far Advanced Cases Hector Mackenzie, Brompton Hospital, London.

The New Hospital for Advanced Cases in Boston. Edwin A Lock, Boston

Friday, Oct. 2

Day Camps David Townsend, Boston

Night Camps William C White, Pittsburg, Pa

Treatment of Tuberculous Patients in Their Homes and in Places Other Than Sanatoria Charles L Minor, Asheville, N C. Dr Thomas D Coleman, Augusta, Ga

Economic Housing of Consumptives P. M. Carrington, Fort Stanton, N M

Importance of Sanatoria for the Well to-Do as Well as for the Poor Charles F Gardiner, Colorado Springs; Will H Swan, Colorado Springs, Herbert M. King, Liberty, N Y.

Friday, Oct. 2. Special Papers Proposed by the French Committee

Comparative Cytology for the Diagnosis of Tuberculous Effusions A Cade, Lyons

Tuberculous Rheumatism and Inflammatory Tuberculosis of the Viscera A Poncet, Lyons

Tuberculosis in the Etiology of Mental Maladies R. Lepine, Lyons

Pleural Tuberculous Adhesions and their Rôle in Sudden Death Prof Lacassagne and Dr Martin

Sanatorium of Ste Feyre (Creuse) for Teachers M Leune

Efficacy of Extract of Mistletoe in the Control of Hemoptysis R Gaultier

Economical Treatment of Tuberculosis—Aerium or Hospital Sanatorium Raoul Brunon, Rouen

The Rouvray Forest Sanatorium in the Rouen Region Dr Cotoni and Dr Giraud.

Laboratory Methods in Diagnosis of Cutaneous Tuberculosis J. Nicolas, Lyons

1 The Mangini Sanatorium and its Achievements 2 Variations in Respiratory Combustion Among Tuberculous Patients Treated in a Sanatorium at a High Altitude F Dumarest, Hauteville.

Special Papers Proposed by the Swiss Committee.

Construction of the Sanatorium at a High Altitude for Tuberculous Patients H. Verrey, Lausanne

Clinical Indications and Contraindications for the Climate of High Altitude Dr Exchaquet, Leyson

Asthma and Tuberculosis Leopold de Reynier, Neuchatel

Other Special Papers

Tuberculinum Purum. I Gabrilowitsch, Halila, Finland

The Clinical Value of Examinations of the Blood of Tuberculous Patients According to the Method of Arneth C Dluski and M. Rozpedzikowski, Lakopane, Poland

The Therapeutic Value of the Tuberculin Tests Controlled by the Opsonic Method S Bernheim, Paris

The Dislocation of the Lung Apices and the Rules for Locating the First Disease Centers Carl Hart, Schoeneberg Berlin

A Statistical Study of One Hundred Cases of Laryngeal Tuberculosis, Treated with Formaldehyde. E. S. Bullock, Silver City, N. M.

Immunity Production, by Inoculation of Increasing Numbers of Bacteria, Beginning with One Organism; Its Therapeutic Application. Gerald B Webb, W. W. Williams, Colorado Springs, and M A Barber, University of Kansas.

The Prevalence and Treatment of Tuberculosis in Hospitals for the Insane in United States and Canada. Richard H. Hutchings, Ogdensburg, N. Y.

French Cancer Research Association.—In June and July this newly organized association held its first two meetings. They were open to the public and were well attended. Borrel discussed the problem of the origin of cancer, and the two processes in its growth: the progressive transformation on the surface of normal cells into cancer cells, and the growth in the depths by simple cellular multiplication of the already neoplastic elements. The histogenesis of cancer, he said, might be explained by the existence of a virulent agent invading the cells by contact, but this would have to be demonstrated by inoculation and this inoculation can not be done on man. He has observed cancroids developed in the epidermis of rats and mice, exactly at the point of contact with the cells of an inoculated tumor. This seems to show that under certain conditions of inoculation the still problematic cancer virus might pass from the graft to the graft-holder. This is almost a demonstration of the inoculability of cancer. He urged complete and scientific study of "cancer houses," streets, villages and countries, and commented on the epidemics in certain groups of mice. In some fully 10 per cent. of the old females become affected with spontaneous tumors, while other cages are exempt. Experiences at the Pasteur Institute disprove the assumption of local heredity from consanguinity as an explanation of these epidemics. Everything in these mouse cancers seems to suggest, he said, some local cause of contagion. He added that the spontaneous tumors almost always occurred in the dirtier cages, infested with vermin, especially with bedbugs, and the latter also infested with parasites, acari, which they may carry from mouse to mouse in the cages. The microscope frequently reveals débris of large parasites, acari, nematoid worms, etc., in the young spontaneous tumors. Certain cases of cancer in man also plead in favor of the assumption of an acarus as a possible agent of inoculation. One fact only is certain, he concluded, namely, that the different forms of cancer are not directly transmissible from man to man, and that contagion, if it exists, can be only by indirect means. Menetrier addressed the meeting on "Precancerous Morbid Conditions," stating that cancer is not a primary morbid form, but the outcome of multiple anterior and preparatory pathologic conditions from defective development or chronic inflammatory modification. The already modified elements in the precancerous conditions are those which undergo the cancerous evolution.

The Effects of Alcohol on the Liver.—The hepatic conditions due to chronic alcohol poisoning are enumerated by Garnier in the *Progrès Medical,* March 21, 1908, as follows: 1. Latent hepatic steatosis of alcoholics, described by Gilbert and Lereboullet in 1902. This is a purely parenchymatous alteration, coming on without symptoms and usually discovered when the patient comes under observation on account of some other condition It has a serious prognosis, the patients succumbing rapidly to intercurrent disease. If recognized, however, recovery is possible with total abstinence and proper treatment. 2. Fatty cirrhosis. The hypertrophic form, described almost simultaneously in 1881 by Hutinel and Sabourin, usually due to alcoholism, but may be caused also by tuberculosis; Hanot's and Gilbert's tuberculous fatty hypertrophic hepatitis is the same disease, differing only in its causation The atrophic form—the atrophic cirrhosis of rapid course of Hanot, also sometimes tuberculous Both types have a grave prognosis In all the above a hepatic cell is affected, either alone or simultaneously with the connective tissue. There remains still a class, more numerous and more important, in which the interstitial tissue is alone involved, the venous cirrhosis This includes: 3. Diffuse alcoholic hypertrophic cirrhosis described by Gilbert and Garnier in 1897, which may also be caused by tuberculosis, of rapid course, terminating in hypothermic coma. 4. The cirrhosis of Laennec. 5. Hypertrophic cirrhosis described by Hanot and Gilbert in 1890, of less serious import than the others. The hepatic cell in this disease shows a remarkable vitality, sometimes revealing itself in an accumulation of pigmentary granules—the pigmentary hypertrophic alcoholic cirrhosis. Another variety of this type is the anascitic, relatively benign, but frequently with severe gastro-esophageal hemorrhages which may be fatal. Still another variety is the diabetic form. The integrity of the hepatic cell is the common peculiarity of all. The diagnosis of alcoholic cirrhosis is easy in typical cases, but may be rendered difficult by coexistence of more than one form. In summing up the effects of alcohol on the liver, Garnier says that, in whatever way it acts, it injures the hepatic cell, and that experimental cirrhosis has not been produced, is doubtless due to the fact that the experiments are carried over too brief a period—the animals succumb before their lesions have time to cicatrize. Sclerosis is explainable without invoking any hypothetic action of alcohol on the connective tissue; the poison attacks and kills the liver cell; if the process is slow and only a few cells are killed at a time, the connective tissue hypertrophies and takes the place of the destroyed cells, a fibrous cicatrix forms and the process of sclerosis begins. In acute overwhelming liver intoxication the cell is functionally disordered, and, while icterus may appear, it is not usually so severe as to cause death. If the intoxication is chronic, from doses frequently repeated but not singly capable of producing massive intoxication, but still considerable, the cell becomes profoundly affected, undergoes fatty degeneration, and frequently the organism gives way and death follows with the symptoms of hepatic insufficiency which are those of fatty hypertrophic cirrhosis. With a more gradual toxic process, the cellular lesions are more discrete and may give rise to no prominent symptoms; we find only the fibrous cicatrices left which give rise to simple cirrhosis. This is what occurs from small doses taken over a long period, as in wine drinking, in which it often occurs, which Lancereaux considered to affect the interstitial tissue especially. The cirrhosis here indicates the attempt of Nature to repair damage; the organism defends itself as best it can. If the defense is relatively successful, the cirrhosis takes the hypertrophic form; if, on the other hand, the resistance is less well organized or the toxic attack too strong, the liver gives way, the cirrhosis of Laennec is produced, leading most often to a fatal termination.

Pathogenesis and Relief of Medical Nomenclature.—Mamlock in a communication in the *Deutsche medizinische Wochenschrift*, July 2, reiterates the protest against the application of personal names to diseases, etc. He quotes a number of new rank instances of this abuse from recent medical literature, among them the technic for serum diagnosis of syphilis, indexed in the German journals as the "*Wassermann-A. Neisser-Brucksche Reaktion.*" The new cutaneous tuberculin reaction is also recently referred to in the *Wiener klinische Wochenschrift* as "*Perlsucht-Pirquet.*" He regards this latter term as a verbal "neoformation which must be regarded as unusually malignant." He suggests that the time has now come for revision of medical nomenclature from the bottom up, as has been done for anatomy and as is now being attempted in neurology. The principles adopted by the BNA would be most excellent for the purpose, he says. These principles are short and simple terms, philologically correct—merely memory signs, not necessarily laying any claim to description or to speculative interpretation—and that related terms shall, so far as possible, be similar, and that adjectives, in general, shall be arranged as opposites. The objections against the retention of personal names are stated by the BNA as: 1, historical injustice is frequently done, the name borne being that of some later worker; 2, the variations of the name in different countries; 3, in the literature of the specialties personal names are often used in great excess; and 4, no systematic plan seems to have been followed in adopting personal names. The only convincing argument in favor of retention of personal names is to awaken the historical sense of the student. The BNA compromised by adding to the objective name the personal name in brackets, leaving to time the final decision. Mamlock thinks that the revision of medical nomenclature would be a grateful task for an international medical congress, and that no one could have any objections to the appointment of a special committee for this purpose.

Sudden Death in Dementia Præcox.—A. Gianelli, *Rivista di Patalogia nervosi e mentale*, April 4, 1908, reports the cases of two patients, suffering from dementia præcox, one of 13 years and the other of 4 years' duration. Both patients died suddenly in syncope, while apparently in ordinary good physical health. The autopsies revealed nothing sufficient to account for the deaths except that, as in somewhat similar cases reported by Dreyfus and Tetzener, there was a swollen condition of the brain and a much less than normal difference between the volume of the brain and the cranial capacity as measured by water. In Dreyfus' case this was only 1.2 per cent., while normally it should vary between 10 and 15 per cent., the brain weight being 1,592 grams while the cranial capacity was 1,610 c.c. In Gianelli's cases the proportions were very similar, the cranial capacities being 1,396 and 1,472 c.c. respectively to brain weights of 1.320 and 1.450 grams. In Dreyfus and Tetzener's patients, however, death was preceded by convulsions, which were lacking in both of Gianelli's patients. He suggests that the cerebral swelling may have been more sudden in his cases, paralyzing at once the bulbar centers of respiration and circulation.

Protracted Subfebrile States in Children.—G. Jacobson has encountered a number of cases in which children seemed to be a little ailing for a long time, for months or years, and the thermometer showed a slight increase of temperature, this subfebrile condition persisting unmodified by iron, quinin or antipyretic drugs. Any overexertion had a tendency to exaggerate the fever, even prolonged reading, and remaining in bed attenuated it, but never banished it completely. Periods of intermission occurred occasionally, lasting a week to six months, and during these afebrile periods the children grew strong and ruddy, but began to pine again as the subfebrile temperature returned. The urine and blood findings were always negative, and none of the children has shown any signs of tuberculosis. All of them, however, had suffered at some time from adenoid vegetations, chronic pharyngitis or from follicular tonsillitis or earache. The throat symptoms were insignificant or the findings were apparently negative, but closer examination revealed some unsuspected insignificant focus of persisting nasopharyngitis, cure of which restored conditions to normal at once. Jacobson's communication on the subject was published in the *Bulletins de la Société de Pédiatrie*, May, 1908.

Puerperal Staphylococcus Infection.—G. L. Basso reports 3 cases and reviews 22 he has found in the literature in which staphylococcemia occurred in pregnant women or puerperæ. Only 5 of the patients recovered. The 9 patients with *Staphylococcus albus* all died. He ascribes the recovery in one of his 3 cases to intravenous injections of mercury bichlorid, the chills and fever subsiding under their influence, while the pulse rate did not seem to be affected. There does not seem to be any specific syndrome for staphylococcus infection differentiating it from streptococcus sepsis. The course of the sepsis was acute, subacute or chronic, its duration ranging from four days to three months. His monograph on the subject fills the *Ginecologia*, April 30, 1908.

Alienists' Testimony and the Weber Case in France.—Three years ago a woman named Jeanne Weber was accused of having strangled six children in her charge in the course of two years, including some of her own children, the others her nephews. The medical experts in the case were Brouardel, Thoinot, Brissaud, Socquet and four other specialists. Their verdict was unanimous that the children had died natural deaths. After her acquittal the woman lived with a man for several months, when his child also died and she was again arrested. Thoinot and Socquet, two of the former experts, declared that the child had died of intestinal trouble. After this the woman led a wandering, outcast life, public opinion holding her responsible for having killed seven children. Last May the child of a friend spent the night with her, at her request, and the child was found dead from unquestionable strangulation. The public is denouncing the experts who allowed the woman to continue her murderous career. The alienists now believe that the woman's privations and mental distress have induced an actual obsession until she finally committed the act of which the public believed her guilty in the past. The newspapers are publishing interviews with various medical men, and medicolegal testimony is receiving much unfavorable criticism. The "Weber children" have been cited in the literature of late as examples of a familial tendency to "thymus death."

Some Vital Statistics from Europe.—According to the official statistics, Germany stands next to the highest of European countries in respect to the increase in population for the year 1906, the excess of births over deaths being 14.9 per thousand of the population. The figure was 13.2 per thousand the preceding year. In Denmark the percentage was slightly higher, 15.1 per thousand. For the year 1905, several countries, Bulgaria, the Netherlands, Roumania and Denmark exceeded Germany, but so far as the reports from other countries in Europe are at hand, the proportion was considerably lower, France having only 0.9 per thousand. The number of divorces in Germany has increased from 7,928 in 1900 to 12,180, Berlin having one divorce to each fourteen marriages. The number of marriages was 16.3 per thousand inhabitants, a slight increase over former years. France and Ireland had the lowest birth rate 1900-1905, it being respectively 21.2 and 23.1 per thousand. Russia led with 41.6, Germany had 34.7, and Great Britain 26 during this five-year period. The *Semaine Médicale* cites figures to show that the birth rate has fallen in all the countries of Europe since 1900, except in Ireland, Spain and Roumania.

Effect of Roentgen Rays on Young Amphibians.—Illumination by Roentgen rays has a decidedly detrimental and destructive effect on young animals, as indicated by the experiments of Dr. H. E. Schmidt (*Archiv für mikroskopische Anatomie und Entwicklungsgeschichte*). His work confirms that of Perthes, Schaper, Bohn, Gilman and Baetjer who found that exposure to Roentgen rays, as well as to radium, had an inhibitory effect on the growth of young larvæ and the hatching of eggs. Schmidt exposed axolotl eggs to Roentgen illumination, using as controls eggs from the same spawn. The results of the experiment indicate that such exposure reduces the hatching 100 per cent. and that the animals invariably die a short time after hatching. The most marked effect was on the brain and spinal cord. Scarcely any trace of normal nervous tissue of the brain and cord could be found in animals after exposure. It is his opinion that the brain and spinal cord show a distinct susceptibility to destruction by Roentgen and radium rays.

Book Notices

HERNIA. By R. W. Murray, F.R.C.S., Surgeon, David Lewis Northern Hospital, Liverpool. Cloth. Pp. 99, with illustrations. Price, $1.80. Philadelphia: P. Blakiston's Son & Co., 1908.

The author is a warm supporter of the so-called saccular theory of hernia first brought forward by Mr. Hamilton Russell of Melbourne. According to the views of Russell and the author a preformed sac offers the only satisfactory explanation of all abdominal herniæ which have no definite traumatic origin. Many believe there is considerable evidence in favor of this saccular theory and agree with the statement that "in a fair proportion of adult herniæ the sac is of congenital origin." One can not agree, however, with the author when he advocates as his method of operation, high ligation of the sac and overlapping of the external oblique aponeurosis. A larger experience and more careful revision of cases will be necessary before surgeons will consent to the principles of the Bassini operation or its modifications. An investigation made by Dr. Nathan Raw (page 8) for the author is of great interest in connection with the question of recurrence of herniæ after operation. In 200 consecutive postmortem examinations a potential hernial sac was found in 47, and in these 47 bodies 68 diverticula were present. Of the latter 13 were inguinal, 52 femoral and 3 umbilical. In 16 cases more than one diverticulum was found. The book is a valuable one in view of the novelty of the theories presented and is worthy of a careful perusal.

SKIN AFFECTIONS IN CHILDHOOD. By H. G. Adamson, M.D. (Lond.), M.R.C.P., Physician for Diseases of the Skin, Paddington Green Children's Hospital. Cloth. Pp. 287, with illustrations. Price, $2.00. New York: Oxford University Press, 1907.

The author deals with the various affections of the skin, particular attention being paid to those diseases peculiar to early life, e. g., ringworm of the scalp, lichen urticatus and the eruptions of congenital syphilis.

The book is well written and the specialist's point of view is not too much to the fore. Congenital syphilis, for instance, is properly regarded as a general disease, and the author discusses chiefly the dermatologic aspects of this affection, due weight being given to other physical signs as aids to diagnosis.

The directions for treatment of the various affections, on the whole, are good, though more of detail might have been introduced. No allusion, however, is made to the opsonic management of the multiple abscesses in infants, due to the staphylococcus. In view of the favorable reports of this method of treating these infections it deserves mention. The book fulfills fairly well the intention of the author, expressed in the preface, of being "a practical guide to the clinical study and treatment of skin affections in children."

MUSCLES OF THE EYE. By Lucien Howe, M.A., M.D., Professor of Ophthalmology, University of Buffalo. In Two Volumes. Vol. I. Illustrated. Cloth. Pp. 155. Price, $4.25 net. New York and London: G. P. Putnam's Sons, 1907.

The author in the preface states that in view of the mass of accumulated literature on muscular anomalies it would be useless to add to it were it not on a plan different in its scope from that of the various detached articles already written. His plan is: 1. To collect data relating to this subject, separating as clearly as possible demonstrated facts from statements based on theory. 2. To formulate these concisely and in the simplest terms possible. 3. To supply data needed to correlate our anatomic and physiologic facts without clinical experiences. He has approached the subject in a way that will be appreciated by the practical ophthalmologist. There are numerous illustrations, chiefly in black and white, and photography has been brought into use to register various ocular movements. In an appendix are photographs and biographic notes of ophthalmologists who have particularly concerned themselves with the ocular muscles. It is to be hoped that the second volume will bear out the promise shown in this first volume.

SYPHILIS. By Edward L. Keyes, Jr., A.B., M.D., Ph.D., Clinical Professor of Genitourinary Surgery, New York Polyclinic Medical School and Hospital. Pp. 577, with illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

This work is based on cases seen in private practice and not on hospital records, which usually deal with the severer forms of the disease. The chapter on prophylaxis is good and is of especial interest. Keyes speaks highly of mercurial injections, especially injections of the insoluble salts, and states that in cases in which mercury will act at all these injections are more efficient than other methods of administration of this drug. He gives a secondary place to the iodids. The general practitioner will find this a practical and reliable work.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DESTRUCTION OF ROACHES

LUMBERTON, N. C., July 8, 1908.

To the Editor:—Can you give me a positive means for the destruction of roaches? A. THOMPSON.

ANSWER.—The so-called Persian or Dalmatian insect powder, pyrethrum flowers, unofficial, appears to be the most effective roach exterminator, but when these insects have obtained the upper hand, it is extremely difficult to get rid of them. The powder should be dusted into every crack and crevice daily until the pests have disappeared; the application of the powder should be most thorough. Borax has been used and by some people it is believed to be as efficient as the insect powder. It is dusted in the places where the roaches congregate and breed.

ANTISEPTIC POWER OF SOAPS.

Davis, W. Va., July 9, 1908.

To the Editor:—Please give the antiseptic strength of such soaps as detergol, sinol and lysol. Drs. Hardy and Butt.

Answer.—Soaps have slight antiseptic power; this is greater when they are markedly alkaline, as the official sapo mollis. Recent investigations indicate that the antiseptic power is more marked with salts (soaps) of the saturated fatty acids (e. g., stearic) than in the case of soaps of the unsaturated fatty acids. While free alkali increases the antiseptic power of the soaps, the investigations indicate that increase in bactericidal power depends more on alkali liberated by hydrolysis when the soap is dissolved in water than on alkali already present in the soap. (Reichenbach, H.: *Ztschr. f. Hyg. u. Infekt. Krank.*, LIX, 296.) We find no reference to sinol or detergol. Lysol is a preparation of cresol, practically identical with liquor cresolis compositus, U. S. P., and is said to have about the same germicidal power as phenol (carbolic acid). This is given by some authorities as 1 to 333.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Aug. 1, 1908:

Kirkpatrick, T. J., major, M. C., granted leave of absence for one month, about August 15.

Kendall, W. P., major, M. C., ordered from Ft. Ethan Allen .Vt., to Ft. Ontario, N. Y., for temporary duty, and return.

Girard, J. B., col., M. C., detailed to represent Medical Dept. of the Army at the Fifth Pan-American Medical Congress at Guatemala, Aug. 5 to 10, 1908.

Shaw, H. A., major, M. C., granted leave of absence for one month, about August 8.

Moncrief, W. H., capt., M. C., granted leave of absence for two months, when services can be spared, with permission to ask extension of one month.

Reagles, Jas., contract surgeon, granted sick leave of absence for twenty days.

The following named first lieuts., M. R. C., recently appointed from contract surgeons, with rank from July 7, 1908, were ordered to active duty in the service of the United States, July 28, 1908:

Anderson, E. A.,
Ashburn, J. K.,
Bierbower, H. C.,
Brown, I. C.,
Brown, P. D.,
Brown, W. E.,
Campbell, G. F.,
Clayton, G. R.,
Cook, G. W.,
Cullen, C. W.,
Cutliffe, W. O.,
Davis, O. F.,
Delacroix, A. C.,
De Kraffty, S. C.,
de Niedmann, W. F.,
Dulin, C. T.,
Eliot, H. W.,
Escobar, J. A.,
Farrow, E. J.,
Hadra, Fredk.,
Hall, W. E.,
Halliday, C. H.,
Hereford, J. R.,
Holmes, T. G.,
Hughes, M. E.,
Jackson, T. W.,
Jenkins, F. E.,
Johnstone, E. K.,
Jones, E. C.,
Jones, G. B.,
Kellogg, P. S.,
Leeper, J. F.,
Le Hardy, J. C.,
Lemmon, Robt.,
McCord, D. P.,
McLeod, H. C.,
McPheeters, S. B.,
Merrick, J. N.,
Mills, F. H.,
Mount, J. R.,
Myers, W. H.,
Pascoe, J. B.,
Patterson, E. W.,
Priest, Howard,
Richardson, G. H.,
Sabin, W. E.,
Shepherd, J. M.,
Sievers, R. E.,
Slayter, J. T. H.,
Smith, R. D.,
Smith, W. H.,
Sparrenberger, F. H.,
Springwater, S. A.,
Stallman, G. P.,
Stephenson, A. V.,
Stuckey, H. W.,
Tetrault, C. A.,
Thorne, J. I.,
Treuholtz C. A.,
Tukey, W. H.,
Tyler, G. T.,
Walker, T. C.,
Wheate, J. M.,

Navy Changes.

Memorandum of changes in the Medical Corps, U. S. Navy, for the week ending Aug. 1, 1908:

Payne, J. H., P. A. surgeon, detached from the Navy Yard, Boston, and ordered to the *Salem* when commissioned.

Bacon, S., asst.-surgeon, detached from the Naval Hospital, New Fort Lyon, Colo., and ordered to the *South Dakota*.

Crow, G. B., asst.-surgeon, ordered to the Naval Hospital, Norfolk, Va.

Chilton, A. L., asst.-surgeon, ordered to the Naval Hospital, Philadelphia.

Phelps, J. R., asst.-surgeon, ordered to the Naval Hospital, Boston.

Butts, H., asst.-surgeon detached from the Naval Station, Cavite, P. I., and ordered to the Naval Hospital, Canacao, P. I.

Kelly, H. L., asst.-surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to the Naval Station, Cavite, P. I.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended April 29, 1908:

Banks, C. E., surgeon, granted leave of absence for 20 days, from Aug. 23 1908.

Carrington, P. M., surgeon, granted leave of absence for 16 days, on account of sickness.

McIntosh, W. P., surgeon, granted leave of absence for one month, from Aug. 14, 1908.

Cobb, J. O., surgeon, granted leave of absence for 7 days, from July 29, 1908.

Stoner, J. B., surgeon, granted leave of absence for 1 day, July 26, 1908.

Wertenbaker, C. P., surgeon, directed to proceed to Wachapreague and Cape Charles City, Va., for the purpose of examining keepers and surfmen of the Life-Saving Service.

Blue, Rupert, P. A. surgeon, detailed as member of a Revenue-Cutter Service retiring board, San Francisco, Aug. 3, 1908.

King, W. W., P. A. surgeon, detailed as member of a Revenue Cutter Service retiring board, San Francisco, Aug. 3, 1908.

Stimson, A. M., P. A. surgeon, granted leave of absence for 1 month and 15 days, from Aug. 17, 1908.

Bryan, Wm. M., asst.-surgeon, granted leave of absence for 1 day, July 21, 1908, under Paragraph 191

Brinckerhoff, W. R., director leprosy
granted leave of absence for 30 days, from

Bailey, C. Williams, acting asst.-surgeon, granted leave of absence for 7 days, from July 28, 1908.

Baird, W. A., acting asst.-surgeon, granted leave of absence for 16 days, from July 16, 1908.

Gleason, C. M., acting asst.-surgeon, granted leave of absence for 20 days, from Aug. 1, 1908.

Kennedy, G. R., acting asst.-surgeon, granted leave of absence for 30 days, from July 23, 1908.

Small, E. M., acting asst.-surgeon, granted leave of absence for 4 days, from June 20, 1908.

Stearns, H. H., acting asst.-surgeon, granted leave of absence for 1 day, on account of sickness, July 13, 1908.

Tuttle, Jay, acting asst.-surgeon, granted leave of absence for 30 days, from Aug. 2, 1908.

Villoldo, P., acting asst.-surgeon, directed to proceed to Cienfuegos, Cuba, for temporary duty, upon completion of which to rejoin his station at Havana.

Watkins, McD., acting asst.-surgeon, granted leave of absence for 1 day, July 29, 1908.

BOARD CONVENED.

A board of medical officers was convened to meet at Seattle, for the purpose of examining an alien immigrant. Detail for the board: Passed Assistant Surgeon M. W. Glover, chairman; Assistant Surgeon C. W. Chapin, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 31, 1908:

SMALLPOX—UNITED STATES.

Illinois: Chicago, July 11-18, 1 case.

Indiana: Fort Wayne, June 27-July 4, 1 case; Indianapolis, July 12-19, 17 cases; La Fayette, July 13-20, 1 case; South Bend, July 11-18, 4 cases.

Kansas: Wichita, July 11-16, 1 case.

Louisiana: New Orleans, July 11-18, 1 case.

Ohio: Cincinnati, July 10-17, 1 case; Springfield, July 11-18, 1 case; Toledo, June 27-July 11, 7 cases.

Washington: Spokane, July 4-11, 7 cases.

Wisconsin: La Crosse, July 11-18, 6 cases.

SMALLPOX—FOREIGN.

Algeria: Algiers, June 27-July 4, 2 deaths.

Arabia: Aden, June 15-29, 8 deaths.

Brazil: Bahia, June 1-30, 115 cases, 1 death; Para, June 27-July 4, 2 cases, 2 deaths; Rio de Janeiro, July 14-21, 378 cases, 151 deaths; Santos, July 15-21, 1 death.

Canada: Halifax, July 4-11, 1 case.

China: Foochow, June 6-13, present; Nanking, June 4-11, epidemic.

Egypt: Cairo, June 17-July 1, 7 cases, 4 deaths; Suez, May 27-June 24, 4 cases.

India: Bombay, June 9-23, 49 deaths; Calcutta, May 31-June 13, 25 deaths.

Italy: Genoa, May 1-31, 2 cases; Naples, June 20-July 4, 12 cases; Palermo, 6 cases, 1 death.

Japan: Kobe, June 13-20, 4 cases; Osaka, June 6-20, 13 cases, 4 deaths.

Java: Batavia, May 31-June 13, 7 cases.

Mexico: Aguascalientes, July 5-12, 1 death; Mexico City, May 31-June 6, 16 deaths.

Peru: Lima, June 27, 1 case.

Portugal: Lisbon, June 27-July 4, 2 cases.

Russia: Moscow, June 20-27, 24 cases, 7 deaths; Odessa, 3 cases; Riga, June 27-July 11, 6 cases; St. Petersburg, June 13-27, 117 cases, 21 deaths; Warsaw, May 23-30, 7 deaths.

Siberia: Vladivostok, June 4-14, 3 cases.

Spain: Valencia, June 27-July 4, 4 cases, 1 death.

Straits Setttlements: Singapore, May 31-June 13, 2 deaths.

Turkey in Europe: Constantinople, June 28-July 5, 10 deaths.

Turkey in Asia: Bagdad, May 16-June 21, 36 cases, 23 deaths.

YELLOW FEVER.

Brazil: Manaos, June 13-27, 14 cases, 14 deaths; Para, June 20-27, 2 cases, 2 deaths; Rio de Janeiro, June 14-21, 1 case.

Cuba: Daiquiri, July 28, 2 cases, 1 death.

Mexico: Laguna, June 27-July 4, 1 case; Veracruz, July 14-17, 2 cases.

CHOLERA.

Ceylon: Colombo, June 6-13, 3 deaths.

India: Bombay, June 9-16, 1 death; Calcutta, May 31-June 6, 52 deaths; Rangoon, May 31-June 13, 14 deaths.

PLAGUE—UNITED STATES.

California: Alameda County—Oakland, July 21, 1 case, 1 death; Contra Costa County—Concord, July 15, 1 case, 1 death; Prencis Valley, July 24, 1 case, 1 death—10 miles from Martinez.

PLAGUE—FOREIGN.

China: Canton, June 13-20, present.

India: Bombay June 9-23, 69 deaths; Calcutta, May 31-June 6, 45 deaths; Rangoon, May 31-June 13, 68 deaths.

Indoo-China: Saigon, May 31-June 13, 30 cases, 26 deaths.

Japan: Osaka, June 6-20, 2 cases, 3 deaths.

Peru: general, June 20-27, 53 cases 16 deaths; Callao, 1 case.

Turkey in Asia: Bagdad, May 16-June 21, 36 cases, 23 deaths.

Venezuela: Caracas, July 18-23, present; La Guaira, present.

Association News

HONORARY MEMBERS.

Acknowledgments from Distinguished Foreigners Recently Elected.

London, July 12, 1908.

To the General Secretary, American Medical Association:

I beg to acknowledge the receipt of your letter of June 30, informing me that the House of Delegates had elected me an honorary member of the American Medical Association, and I wish to express to you my gratification at this great compliment which they have paid me. With kind regards, believe me,

Yours very truly, E. Treacher Collins.

Berlin, July 14, 1908.

To the General Secretary, American Medical Association:

It gave me great pleasure to learn that the House of Delegates has honored me by the election among the number of the honorary members of the American Medical Association. I admire the Association as the most powerful medical corporation of the world, representing the scientific as well as the ethical interests of the profession. When witnessing the proceedings in June, I felt deeply impressed by the work of the Association in both directions.

This honorary membership I esteem the highest title that has been conferred on me. I beg to express my thanks to the House of Delegates, and to remain,

Very truly yours, A. Martin.

Edinburgh, July 14, 1908.

To the General Secretary, American Medical Association:

I esteem it a high honor to have been elected an honorary member of the American Medical Association and beg you to convey my appreciative thanks to the House of Delegates. With kind regards, believe me.

Yours sincerely, E. A. Schäfer.

[Comment.—The present list of honorary members is as follows: Prof. O. Haab, Zurich, Switzerland, elected 1902; Prof. A. Maitland Ramsay, Glasgow, Scotland, 1904; Prof. A. Logan Turner, Edinburgh, Scotland, 1904; Prof. J. Hirschberg, Berlin, 1905; Prof. A. von Rosthorn, Heidelberg, Germany, 1906; Prof. F. Trendelenburg, Leipsic, Germany, 1906; Prof. L. Killian, Freiburg, Germany, 1907; Prof. Carl Hess, Würzburg, Germany, 1907; Prof. Edward F. Schäfer, Edinburgh, Scotland, 1908; Prof. August Martin, Berlin, Germany, 1908, and Prof. E. Treacher Collins, London, 1908.—Ed.]

NEW MEMBERS.

List of new members of the American Medical Association for the month of July, 1908:

ALABAMA.

Appleton, H. L., Gadsden
Cole, H. P., Mobile.
Greene, J. B., Birmingham
Harris, A. B., Birmingham
Robinson, Annie M., Birmingham.
Seay, J. E., Pratt City.

ARIZONA.

Wilson, J. C., Willcox.

CALIFORNIA

Hadden, David, Berkeley
Nagel, C. S. G. San Francisco.
Onesti, S. J., San Francisco
Temple, Jackson, Santa Rosa.
Thompson, H. A., San Diego.
Thompson, L. L., Gridley

COLORADO.

Barry, J. D., Denver.
Plumb, C. W., Grand Junction.

CONNECTICUT.

Henze, C. W., New Haven.
Laden, M. R., Hartford.
Kebler, L. F., Washington.
Walker, R. R., Washington.

GEORGIA.

Fullilove, H. M., Athens.

HAWAII.

Weddick, John, Wailuku, T. H.

ILLINOIS.

Adams, D. S., Macomb.
Akins, J. C., Forreston.
Berfield, Clyde, Castleton.
Blough, G. F., Camp Grove.
Boren, A. J., Stillwell.
Bowers, G. S., Galesburg.
Bowman, W. T., Moweaqua.
Braun, H. W., Mounds.
Brewer, E. M., Rantoul.
Briggs, F. E., Roanoke.
Capel, J. V., Harrisburg.
Carr, R. H., Chicago.
Clyne, Meade, Chicago.
Cord, C. E., Chicago Heights.
Culver, Eugenia M., Glencoe.
Douglass, D. T., Colfax.
Ferrell, Barney, Carterville.
Gardner, I. A., Chicago.
Golden, J. F., Chicago.
Gray, W. B., Altona.
Hall, F. G., Galesburg.
Hare, C. B., Chicago.
Hendricks, E. L., Lanark.
Horn, Albert T., Chicago.
Hottinger, E. S., Chicago.
Heward, C. E., Lewistown.
Humphrey, D. W., Bowen.
Jansen, S. A., Chicago.
Keech, R. K., Decatur.
Lewis, T. W., Chicago.
Leggitt, F. L., Rankin.
McDermid, Andrew, Chicago.
Medaris, Anna, Chicago Heights.
Michael, O. W., Muncie.
Myers, J. C., Clinton.
Mitchell, R. A., Marshall.
Morlan, H. J., Ludlow.
Peacock, Albert, Chicago.
Rider, C. J., Bushnell.
Pebb, F. C., Farmington.
Roberts, I. T., Johnston City.
Rogers, N. C., Rockford.
Ross, J. F., La Prairie.
Schreifels, Leonard, Granite City.
Schwartz, Rollin, Evanston.
Schwarz, L. E., Chicago.
Shelton, W. B., Bingham.
Snively, W. D., Rock Island.
Taylor, E. D., Woodhull.
Terry, H. A., Tampico.
Vollni, Camillo, Chicago.
Warner, F. G., Grafton.
Weir, C. E., Berwick
Weld, E. H., Rockford
Whitefort, A. R., St. Elmo.
Wiggins, G. A., Milan.

INDIANA.

Anderson, D. A., Indianapolis.
Baker, J. V., Harrodsburg.
Bentle, Perry C., Greensburg.
Carver, W. F., Albion.
Cook, S., Gentryville.
Egolf, H. M., Liberty.
Elliott, R. H., Connersville.
Fengler, J. P., Mishawaka.
Frink, C. W., Elkhart.
Harris, O. K., Ellettsville.
Heller, Fred, Brownstown.
Hewitt, H. S., Mishawaka.
Hoover, E. M., Elkhart.
Hutto O. D., Kokomo.
Kitchell, J. E., Deer Creek.
Lee, G. W., Lafayette.
Lockridge, A. B., Rockville.
Longfellow, T. W., Windfall.
Martin, W. H., Kokomo.
McAuliffe, D. L., North Vernon.
McBride, F. B., National Military Home.
McKee, C. E., Dublin.
Mobley, L. F., Summitville.
Resler, F. L., Amboy
Ross, L. F., Richmond
Schenck, F. O., Crawfordsville.
Storch, L. A. E., Indianapolis
Trueblood, J. W., Monroe City.
Veach, P. H., Staunton.
Wainscott, O. C., Peru.

IOWA.

Bowers, A. S., Orient.
Bridgeman, H. L., Columbia.
Garrett, J. M., Ft. Dodge.
Haerem, H. T. K., Story City.
Haisch, O. E., Dubuque.
Hogle, W. M., Keokuk.
Jones, H. D., Schleswig.
Langworthy, H. G., Dubuque.
McCall, H. E., Clearfield.
McEwen, Earle, Mason City.
Phillips, W. C., Clarinda.
Prescott, L. W., Sloan.
Stalford, J. H., Sac City.
Wallahan, J. H., Corning.

KANSAS.

Lake, M. E., Erie.
Morrow, N. C., Altamont.

KENTUCKY.

Barnette, W. T., Mackville.
Berkshire, P. L., Spottsville.
Bloom, I. N., Louisville.
Hayes, H. B., La Grange.
Carter, W. F., Brodhead.
Casper, A. A., Joy.
Jordan, J. C., Rocky Hill.
O'Connor, B. J., Louisville.
Page, W. A., Barlow City.
Parsons, W. H., Kosmosdale.
Redmon, L. C., Lexington.
Russell, G. F., Louisville.
Simpson, J. P., Herschel.

LOUISIANA.

Rooks, J. E., Doyline.
Veazie, H. A., New Orleans.

MAINE.

Richardson, H. K., Bradford.

MARYLAND.

Freeman, E. B., Baltimore.

MASSACHUSETTS.

Plunkett, H. B., Lowell
Ritter, Henry, Springfield.
Sinelitico, Giuseppe, Lawrence.
Young J. H., Boston.

MICHIGAN.

Bryant, B. L., Detroit.
Greene, A. E., Leslie.
Iverson, Christine, Kalamazoo.
Marks, W. J., Jackson.
Maxwell, J. C., Paw Paw.
Merritt, C. W., St. Joseph.
Morse, W. F., Saginaw.
Odell, Anna, Detroit.
Pasternacki, B. W., Detroit.
Sanderson, J. H., Detroit.
Schulte, Jos., Detroit.
Stewart, J. D., Hartford.
Taylor, R. S., Detroit.

MINNESOTA.

Duncan, Wm. T., Fergus Falls.
Hall, E. E., Little Falls.
Jensen, J. C., Hendricks.
Kirkwood, S. M., St. Paul.
O'Brien, R. P., Minneapolis.
Plehn, J. F., Bellingham.

MISSISSIPPI.

Garraway, C. R., Shipman.
Hickman, W. W., Noxapater.
Young, J. W., Grenada.

MISSOURI.

Andrews, John, Grant City.
Best W. W., Bolckow.
Butler, L. P., St. Louis.
Hayden, J. G., Kansas City.
Hopkins, Ross, St. Louis.
Johnson, W. L., St. Louis.

MONTANA.

Spelman, J. F., Anaconda.

NEBRASKA.

Ballard, C. H., Omaha.
Betz, W. H., Bellevue.
Cerny, Joseph, Wilber.
Dwyer, T. J., Omaha.
McCleneghan, Sam'l, Omaha.
Patterson, Franklin.
Watson, E. A., Plainview.
Wearne, F. J., Omaha.
Wills, C. L., Anselmo.

NEW HAMPSHIRE.

Amsden, H. H., Concord.
Foster, G. S., Manchester.

NEW JERSEY.

Mabey, J. C., Montclair.

NEW MEXICO.

Montgomery, C. F., Lake Arthar.

NEW YORK.

Albers, F. M., Brooklyn.
Bartholow, Paul, New York City.
Bolt, F. E., East Meredith.
Bonime, Ellis, New York City.
Campaigne, W. N., Troy.
Cheesman, T. M., Garrison.
DuBois, H. G., Camden.
Griffin, Gerald, Albany.
Hopkins, Maria K., Gloversville.
Hoyt, C. W., Rochester.
Lewis, L. C., Belmont.
Lintz, William, Brooklyn.
Olin, J. D., Watertown.
Richards, W. M., New York City.
Stone, C. L., Brooklyn.
Suess, C. L., Lancaster.
Tartaro, Giuseppe, Buffalo.
Weiss, Julius, New York City.
Weiss, L. D., New York City.

NORTH CAROLINA.

Mudgett, W. C., Southern Pines.

NORTH DAKOTA

Nolte, W. C., Dazey.

OHIO.

Benkert, L. C., Columbus.
Bing, Byron, Pomeroy.
Blower, J. G., Glouster.
Bondv E. R., Cleveland.
Bown, S. J., Richwood.
Bubis, J. L., Cleveland.
Burson, A. L., Irwin.
Carpenter, W. B., Lewis Center.
Case, W. L., Mt. Gilead.
Cowden, D. L., Kimbalton.
Cross, J. A., Youngstown.
Dickmeier, H. P., Cincinnati.
Edmiston, W. E., Columbus.
Fisher, W. H., Toledo.
Floyd, M. B., Dayton.
Frye, A. E., Youngstown.
Gaston, R. E., Cincinnati.
Gill, W. C., Cleveland.
Goodwin, E. M., Cleveland.
Green, C. S., Fostoria.
Herrick, W. H., Cleveland.
Hochwalt, G. A., Dayton.
Holmes, J. E., Columbus.
Holston, J. D., Massillon.
Humphrey, C. M., Akron.
Hunter, A. C., West Alexander.
Jenkins, D. J., Broadway.
Jewett, G. E., Elmwood.
Leeper, W. C., McConnelsville.
Marshall, R. J., East Liverpool.
Palmer, C. D., Cincinnati.
Price, H. H., Cambridge.
Rankin, I. C., Akron.
Reycraft, A. J., Fostoria.
Robinson, G. E., Ostrander.
Simpson, D. G., Warren.
Smith, W. A., Cardington.
Stuntz, Harry, Sabina.
Tedesche, L. G., Cincinnati.
Tressel, J. H., Alliance.
Virtue, F. M., Sulphur Springs.
Wagner, L. H., Cleveland.
Weaver, W. B., Miamisburg.
Willey, A. J., Delaware.
Williams, R. E., Alton.
Woltmann, Harro, Mansfield.

OKLAHOMA.

Beitman, C. E., Skedee.
Hayes, R. B., Guymon.
Langston, W. H., Guymon.
Shankle, H. D., Morris.
Walker, Delos, Oklahoma City.
White, F. A., Madill.

PENNSYLVANIA.

Batt, W. R., Harrisburg.
Bloss, R. H., Bethlehem.
Cornelius, Thorne, Penfield.
Dean, H. G., New Castle.
Heiser, W. H., Nanty Glo.
Hill, A. H., Shamokin.
McCullough, W. J. L., Washington.
Morrow, W. G., West Hickory.
Nofer, G. H., Philadelphia.
Trach, D. C., Kresgeville.

PHILIPPINE ISLANDS.

Goff, A. P., Manila.

SOUTH CAROLINA.

Hart, W. L., Yorkville.

SOUTH DAKOTA.

Bright, H. F., White Lake.

TENNESSEE.

Dancy, A. B., Jackson.
Dulaney, R. W., Knoxville.
McRee, W. C., Trenton.
Pistole, W. H., Memphis.
Whitelaw, W. H., Brownsville.

TEXAS.

Osborne, W. C., Monaville.
Paxton, J. H., Elkhart.

UTAH.

Budge, D. C., Logan.
Hampton, R. R., Salt Lake City.

VIRGINIA.

Strother, W. A., Bedford City.

WEST VIRGINIA.

Jarrell, K. M., Clear Creek.
Johnson, G. W., Terry.
Mayer, Joseph, Winfield.
Quimby, A. J., Wheeling.

WISCONSIN.

Chorlog, J. K., Madison.
Farnsworth, A. L., Baraboo.
Hicks, L. N., Burlington.
Palm, C. A., Kenosha.
Poppe, H. B. B., Wautoma.

WYOMING.

Lane, Frances M., Cody.

Medical Education and State Boards of Registration

Meeting of the National Confederation of State Medical Examining and Licensing Boards.

The eighteenth annual meeting of the National Confederation of State Medical Examining and Licensing Boards was held in Chicago, June 1, 1908, ten states being represented. Among other items of business transacted several committees were appointed:

1. A committee on standing of medical colleges, consisting of Dr. George W. Webster, Chicago, chairman; Dr. Henry Beates, Jr., Philadelphia; Dr. James A. Duncan, Toledo, Ohio; Dr. J. W. Bennett, Long Branch, N. J., and Dr. C. A. Tuttle, New Haven, Conn.
2. A legislative committee, consisting of Dr. Edwin B. Harvey, Boston, chairman; Dr. N. R. Coleman, Columbus, Ohio, and Dr. James A. Egan, Springfield, Ill.
3. A committee on examination, consisting of Dr. T. J. Happel, Trenton, Tenn., chairman; Dr. A. Ravogli, Cincinnati, Ohio, and Dr. J. C. Guernsey, Philadelphia.

The selection of officers for the ensuing year resulted in the choice of Dr. T. J. Happel of Tennessee for president; Dr. A. Ravogli of Ohio and Dr. J. C. Guernsey of Pennsylvania, vice-presidents, and Dr. Murray Galt Motter of the District of Columbia, for secretary and treasurer.

The next meeting will be held at Atlantic City, N. J., June 4, 1909.

Connecticut Homeopathic July Report.

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Board, reports the written examination held at New Haven, July 14-15, 1908. Only one candidate appeared for license, a graduate of Boston University, 1906, who passed with a percentage of 91.

Colleges Not Recognized in North Dakota.

By a resolution of the North Dakota State Board of Medical Examiners, adopted July 16, 1908, a medical college which is rated below 50 per cent. by the Council on Medical Education of the American Medical Association will not be recognized and its graduates will not be admitted to examination after that date.

Arizona April Report.

Dr. Ancil Martin, secretary of the Arizona Board of Medical Examiners, reports the written examination held at Phoenix, April 6-7, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Hahnemann Med. Coll., Chicago	(1895)	82
Medical Coll. of Indiana	(1900)	80
Sioux City Coll. of Med.	(1897)	79
American Med. Coll. of St. Louis	(1893)	77
Jefferson Med. Coll.	(1904)	75.8
Medical Coll. of Virginia	(1904)	81

Illinois May Report.

Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at East St. Louis, May 12-14, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 167, of whom 136 passed and 29 failed. Two candidates took an incomplete examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Examined.
Chicago Coll. of Med. and Surg.	(1908)	9
Northwestern Univ. Med. School	(1908)	2
Barnes Med. Coll.	(1908)	26
Homeopathic Med. Coll. of Missouri	(1908)	3
St. Louis University (1907)	(42, 1908)	43
Washington University, St. Louis, (1905) (1906) (2, 1907)	(38, 1908)	42
St. Louis Coll. of P. and S. (1905)	(10, 1908)	11
FAILED.		
Howard University, Washington	(1901)	1
College of P. and S., Chicago	(1904)	1
Kentucky University	(1902)	1
Barnes Med. Coll. (1906)	(5, 1908)	6
Homeopathic Med. Coll. of Missouri	(1908)	4
St. Louis University	(1908)	1
Washington University, St. Louis (1906)	(4, 1908)	5
St. Louis College of P. and S.	(1908)	10

Ohio June Report.

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the written examination held at Columbus, June 8-10, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 140, of whom 150 passed and 6 failed. Five reciprocal licenses were granted at a meeting held July 7, 1908. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Rush Med. Coll.	(1904)	88
College of P. and S., Chicago	(1908)	84, 89
University of Maryland (1902) 84;	(1906)	79
Baltimore Med. Coll.	(1907)	82
Johns Hopkins Medical School	(1906)	85, 88
Harvard Medical School (1900) 82; (1906) 92;	(1908)	87
University of Michigan	(1908)	86, 86, 87, 87
University of Michigan, Homeo. Dept.	(1908)	79, 84
Michigan Coll. of Med. and Surg.	(1901)	75
Medical Coll. of Ohio	(1908)	76, 79, 81, 81, 81, 82, 82, 82, 83, 84, 84, 85, 86, 86, 87, 87, 87, 89, 89, 89, 89, 90, 92.
Miami Med. Coll (1904) 84;	(1908)	77, 79, 79, 82, 84, 84, 87, 88, 90, 90, 91, 92.
Eclectic Medical Institute, Cincinnati	(1908)	81, 88
Toledo Med Coll.	(1908)	87, 88
Cleveland Coll. of P. and S. (1907) 82;	(1908)	75, 79, 82, 83, 84, 84, 85, 85, 85, 85, 86, 87, 87, 89, 91.
Cleveland Homeo. Med. Coll.	(1908)	82, 85, 86, 91, 93, 93
Western Reserve University	(1908)	81, 83, 83, 83, 85, 86, 86, 87, 87, 87, 87, 87, 87, 87, 87, 87, 87, 87, 88, 88, 88, 88, 88, 88, 89, 90, 92, 92.
Starling Med Coll.	(1906)	75
Starling-Ohio Med. Coll.	(1908)	75, 77, 79, 79, 79, 80, 81, 82, 82, 82, 82, 83, 83, 83, 84, 84, 85, 85, 85, 85, 86, 86, 86, 87, 88, 89, 90, 90, 90.
Jefferson Med. Coll.	(1907)	83, 84, 84, 88, 90
University of Pennsylvania (1907) 83;	(1908)	86, 87, 91
University of Lausanne, Switzerland	(1902)	89
University of Budapest, Hungary	(1886)	82

FAILED

College of P and S, Chicago	(1906)	71
Miami Med Coll	(1908)	71
Eclectic Med Inst Cincinnati	(1906) 68, (1908)	72, 72
Meharry Med Coll	(1908)	65

LICENSED THROUGH RECIPROCITY

College	Year grad	Reciprocity with
Hospital Coll of Med, Louisville	(1905)	Nebraska
Detroit Coll of Med	(1907)	Michigan
Long Island Coll Hosp	(1907)	New York
Eclectic Med Inst, Cincinnati	(1893)	Indiana
Western University, Toronto, Canada	(1904)	Illinois

Mississippi May Report.

Dr S. H McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 12-13, 1908 The number of subjects examined in was 8, total number of questions asked, 64; percentage required to pass, 75 The total number of candidates examined was 238, of whom 107 passed, including 71 non graduates, and 131 failed, including 74 non graduates. The following colleges were represented

PASSED

College	Year Grad	Total No Examined
Medical Coll of Alabama	(1908)	1
Louisville Med Coll	(1894)	1
Tulane University of Louisiana	(1901) (1907) (2 1908)	4
Mississippi Med Coll	(1908)	2
College of P and S, New York	(1907)	1
Leonard School of Medicine	(1908)	3
University of Nashville	(1901) (3 1907) (4, 1908)	8
Memphis Hosp Med Coll	(1903) (10 1908)	11
College of P and S, Memphis	(1908)	2
Chattanooga Med Coll	(1908)	1
University of the South	(1907)	2

FAILED

College	Year Grad	Total No Examined
Denver and Gross Coll of Med	(1907)	1
Louisville Med Coll	(1904) (1907)	2
Flint Med Coll	(1905) (3, 1908)	4
Tulane University of Louisiana	(1883) (1907)	2
Mississippi Med Coll	(3 1907) (7, 1908)	10
St Louis Coll of P and S	(1908)	2
Leonard School of Medicine	(1908)	1
College of P and S, Memphis	(1907)	1
Memphis Hosp Med Coll	(1900) (2 1903) (1905) (1907) (13, 1908)	18
Meharry Med Coll	(5, 1907) (4, 1908)	9
University of Nashville	(1902) (1903) (1906) (1907) (1908)	5
Chattanooga Med Coll	(1908)	1
University of the South	(1905)	1

Marriages

A L Offield, M D, San Jose, Cal, to Miss Irene Doyle, of San Francisco, July 16

George W West, M D, to Mis Lula G. Bunge, both of Eufaula, Okla., July 14.

Charles H Morrow, M D, Gloucester, Mass., to Miss M. Luella Tabor, of Boston, July 22

William M. C Bryan, M D, St. Louis, to Miss Helen Louise Kimlin, of Quincy, Ill., June 24

Frederick Lyons Appli, M D, to Miss Elizabeth Jane Trafton, both of Muscatine, Iowa, June 1

George William Clarke, M.D, to Miss Mabel Whitford Aylesworth, both of Roseville, Ill, July 18

Irving L Nettleton, M D, Bridgeport, Conn, to Miss Ida May Young, of Brantford, Ontario, June 17.

William Thomas Power, M D, New York, N. Y, to Miss Esther Redmond, at London, England, July 18.

Bernhart L Riese, M D, Chicago, Ill., to Miss Clara Freund, of Vienna, Austria, at Chicago, August 6

Albert Frankilton, M D. Milwaukee, Wis, to Miss Grace Lansing Hamilton, both of Milwaukee, Wis, July 8

William D. Bell, M D, P. H. and M. H Service, Washington. D. C, to Miss Mae McKinnon, of Cambridge, Mass, at Boston, June 11.

Franz Solier, M D. Bryan. Ohio. to Miss Louise Harris, of Syracuse. N. Y., at Long Island College Hospital, Brooklyn, N Y, March 19

Deaths

Horace Young Evans, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1858; surgeon of the Philadelphia City Troop during the Civil War; at one time a member of the board of managers of the University Hospital; president of the Welsh Society and the Philadelphia County Medical Society; fellow of the College of Physicians; died at Breakwater, Maine, where he had gone to recover from heat exhaustion, July 23, after an illness of four days, aged 63.

Nathaniel Jacob Beachley, M.D. Eclectic Medical Institute, Cincinnati, 1854; Indiana Medical College, Indianapolis, 1877; for many years a member of the Nebraska State Medical Association: assistant surgeon of the Twenty-second Indiana Volunteer Infantry and surgeon of the Sixty-ninth Indiana Volunteer Infantry during the Civil War; died in Lincoln, Neb, July 10, from senile dementia, after an illness of three years, aged 76.

Claiborne Watkins, M.D. Jefferson Medical College, Philadelphia, 1867; a member of the American Medical Association: a Confederate veteran; one of the founders of the Medical Department of the University of Arkansas, Little Rock, and a number of years a member of its faculty and later emeritus professor; died at his home in Little Rock, July 20, from paralysis, after an invalidism of five years, aged 64.

Edward L. Ballou, M.D. University of Buffalo (N. Y.) Medical *Department*, 1878: a member of the Medical Society of the State of New York; for twenty years health officer of West Seneca; one of the founders of the Gardenville High School, and one time president of the town school board; died at his home in Gardenville, July 25, from heart disease, after a short illness, aged 54.

Jerome H. Crouse, M.D. Rush Medical College, Chicago, 1867; Jefferson Medical College, Philadelphia, 1868; until recently a member of the Indiana State Medical Association; vice-president of the Indiana Rush Medical College Alumni Association; died at his home in Dayton, Ind., June 16, from carcinoma of the stomach, after an illness of six months, aged 65.

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FAILED

College of P. and S., Chicago	(1906)	71
Miami Med Coll	(1908)	71
Eclectic Med Inst Cincinnati	(1906) 68; (1908)	72, 72
Meharry Med Coll	(1908)	65

LICENSED THROUGH RECIPROCITY

College.	Year grad	Reciprocity with
Hospital Coll of Med Louisville	(1905)	Nebraska
Detroit Coll of Med	(1907)	Michigan
Long Island Coll Hosp	(1907)	New York
Eclectic Med Inst Cincinnati	(1893)	Indiana
Western University, Toronto, Canada	(1901)	Illinois

Mississippi May Report.

Dr S H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 12-13, 1908 The number of subjects examined in was 8, total number of questions asked, 64; percentage required to pass, 75 The total number of candidates examined was 238, of whom 107 passed, including 71 non graduates, and 131 failed, including 74 non graduates. The following colleges were represented:

PASSED

College	Year Grad	Total No Examined
Medical Coll of Alabama	(1908)	1
Louisville Med Coll	(1894)	1
Tulane University of Louisiana	(1901) (1907) (2 1908)	4
Mississippi Med Coll	(1908)	2
College of P and S, New York	(1907)	1
Leonard School of Medicine	(1908)	3
University of Nashville	(1901) (3 1907) (4, 1908)	8
Memphis Hosp Med Coll	(1903) (10 1908)	11
College of P and S, Memphis	(1908)	2
Chattanooga Med Coll	(1908)	1
University of the South	(1907)	2

FAILED

Denver and Gross Coll of Med	(1907)	1
Louisville Med Coll	(1904) (1907)	2
Flint Med Coll	(1905) (3, 1908)	4
Tulane University of Louisiana	(1883) (1907)	2
Mississippi Med Coll	(3 1907) (7, 1908)	10
St Louis Coll of P and S	(1908)	2
Leonard School of Medicine	(1908)	1
College of P and S Memphis	(1907)	1
Memphis Hosp Med Coll	(1900) (2 1903) (1905) (1907) (13, 1908)	18
Meharry Med Coll	(5 1907) (4, 1908)	9
University of Nashville	(1902) (1903) (1906) (1907) (1908)	5
Chattanooga Med Coll	(1908)	1
University of the South	(1905)	1

Marriages

A L OFFIELD, M D, San Jose, Cal., to Miss Irene Doyle, of San Francisco, July 16

GEORGE W WEST, M D, to Miss Lula G Bunge, both of Eufaula, Okla, July 14

CHARLES H MORROW, M D, Gloucester, Mass, to Miss M. Luella Tabor, of Boston, July 22

WILLIAM M C BRYAN, M D, St Louis, to Miss Helen Louise Kimlin, of Quincy, Ill., June 24

FREDERICK LYONS APPLE, M.D, to Miss Elizabeth Jane Trafton both of Muscatine, Iowa, June 1

GEORGE WILLIAM CLARKE, M D, to Miss Mabel Whitford Aylesworth, both of Roseville, Ill, July 18

IRVING L NETTLETON, M D, Bridgeport, Conn, to Miss Ida May Young, of Brantford, Ontario, June 17.

WILLIAM THOMAS POWER, M D, New York, N. Y., to Miss Esther Redmond, at London, England, July 18

BERNHART L. RIESE, M.D, Chicago, Ill, to Miss Clara Freund, of Vienna, Austria, at Chicago, August 6.

ALBERT FRANKILTON, M D., Milwaukee, Wis, to Miss Grace Lansing Hamilton, both of Milwaukee, Wis, July 8.

WILLIAM D. BELL, M D., P. H. and M.-H Service, Washington, D. C, to Miss Mae McKinnon, of Cambridge, Mass, at Boston, June 11.

FRANZ SOLIER, M.D. Bryan, Ohio, to Miss Louise Harris, of Syracuse, N. Y., at Long Island College Hospital, Brooklyn, N Y, March 19

Deaths

Horace Young Evans, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1858; surgeon of the Philadelphia City Troop during the Civil War; at one time a member of the board of managers of the University Hospital; president of the Welsh Society and the Philadelphia County Medical Society; fellow of the College of Physicians; died at Breakwater, Maine, where he had gone to recover from heat exhaustion, July 23, after an illness of four days, aged 63.

Nathaniel Jacob Beachley, M.D. Eclectic Medical Institute, Cincinnati, 1854; Indiana Medical College, Indianapolis, 1877; for many years a member of the Nebraska State Medical Association; assistant surgeon of the Twenty-second Indiana Volunteer Infantry and surgeon of the Sixty-ninth Indiana Volunteer Infantry during the Civil War; died in Lincoln, Neb., July 10, from senile dementia, after an illness of three years, aged 76.

Claiborne Watkins, M.D. Jefferson Medical College, Philadelphia, 1867; a member of the American Medical Association: a Confederate veteran; one of the founders of the Medical Department of the University of Arkansas, Little Rock, and a number of years a member of its faculty and later emeritus professor; died at his home in Little Rock, July 20, from paralysis, after an invalidism of five years, aged 64.

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Public Health Association, the National Confederation of State Boards of Health and the Committee of One Hundred of the American Association for the Advancement of Science, to urge that a great new national department of public health should be established at Washington on such broad lines as would embrace or utilize the Marine Hospital Service, the pure food and census bureaus, the Bureau of Animal Industry and such other scientific laboratories and activities operating under other heads as would properly belong to such a department, and create such others for research work and collective investigation as would at once place our government on an equal footing with the other great nations of the earth in this important field of labor.

After full hearing before the Reference Committee on Legislation and Political Action, and after conceding to the Public Health and Marine Hospital Service full credit for all it had done in combating yellow fever in the south, plague in California and its efficient inspection of immigrants, resolutions asking Congress to establish such a new department as is above indicated were unanimously reported by the committee and adopted by the House of Delegates without a dissenting voice. In furtherance of this, "the Committee on Legislation was requested to arrange for such conferences with the Committee of One Hundred, the surgeons general of the Army, Navy and the Public Health and Marine Hospital Service, the bureaus above named and others, or their representatives, jointly or severally that may be deemed best, with a view to attempting to secure such a coordination and cooperation of all these forces as will further the creation of such a department"

A resolution was also adopted asking "the different political parties to make formal declaration in their respective platforms soon to be submitted to the people" as to what their policies would be in regard to such a department. Although the time for action was short, every possible influence was at once brought to bear on the delegates of the conventions of both of the great parties My information is that Mr Taft was entirely favorable, but the plank in the Republican platform was far from satisfactory although even the recognition of the work was a substantial gain Mr Bryan's endorsement was cordial the correspondence with him elaborating the reasons for the request, was in the hands of every delegate before the convention assembled, many leading members of the platform committee took an active interest in the matter, and the plank was inserted almost exactly as I wrote it, with the preamble omitted

A special resolution was also adopted by the House of Delegates by which I was 'directed to represent the Committee on Medical Legislation at its request during the second session of the Sixtieth Congress" This will be worth while only on condition that county societies everywhere can be induced to bring their influence to bear at once on the candidates for Congress of both political parties in every district In a large per cent of these districts, as is true of nearly every one of them in Kentucky the vote is sufficiently close so that a properly organized profession can control the result, and the time has come for this influence to be exercised It will be the more powerful because used in direct conflict with every selfish interest we might have No one is fit to represent an intelligent constituency in Congress, or to hold any other public office who has not sense enough to understand the importance of what we are trying to do, and that the health and lives of women and children are at least as important as that of hogs and sheep, and we should be far more interested in this than any mere party question, or the success of any individual candidate The average politician has a profound respect for the organized vocations which can control votes in which ours should be second to no other, and we owe it as a sacred duty to humanity, quietly and with the dignity befitting such a calling and work, to exercise this power to its full extent

In this connection there is another matter which it is important that county societies should understand, and about which candidates for Congress should be fully advised A resolution is pending before Congress authorizing the President to investigate and readjust the bureaus in all of the departments, with the view to more coherent and effective service It is thought by some that with a proper grouping and classification of all of the existing scientific bureaus making investigations and performing duties having a kinship to what we have in mind, such a department or subdepartments as we desire might be created with little if any additional legislation or expense.

Arrangements are being made for the conference of heads of departments and bureaus indicated above, and the result of this will be given to the profession before the meeting of Congress. In the *meantime* it is urged that each county society in the United States hold a meeting as early as practicable and appoint active but judicious committees, one for each of the great political parties, to secure an expression of opinion from each of the candidates which may be read to the society in advance of the election, and that a copy of such resolution and the names and addresses of the chairman of each committee and of the candidates for Congree be forwarded to me at Bowling Green, Ky. I will know what can be accomplished at Washington just as soon as I can learn the interest county societies are taking in this work.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR JOHN H BLACKBURN DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course]

Twelfth Month.

DISEASES OF THE EYE.

First Weekly Meeting.

Anatomy of Eye and Adjacent Structures.
Physiology of Vision.
Diseases of Eyelid and Lachrymal Apparatus.

Second Weekly Meeting.

Catarrhal, Follicular and Vernal Conjunctivitis
Purulent Conjunctivitis (Gonorrheal and Non-Gonorrheal).
Trachoma, Pterygium

Third Weekly Meeting.

Suppurative Keratitis
Non suppurative Keratitis.
Diseases of Iris

Fourth Weekly Meeting.

The Eye During and After the Exanthemata.
The Diagnosis of Cataract
The Diagnosis of Glaucoma
Foreign Bodies in Eye

Monthly Meeting.

Such Intraocular Diseases as Are Met with in the Treatment of Syphilis, Rheumatism, Nephritis, Tuberculosis and Diseases of the Brain and Spinal Cord.
Extraocular Lesions, Symptoms and Effects from Eruptive Diseases and Adjacent Skin Affections.
Diagnosis and Treatment of Iritis.

FIRST WEEKLY MEETING.

Anatomy of Eye and Adjacent Structures.

The Orbit Bones in both orbits Four walls, base, apex, angles. Important foramina.
Contents of Orbit: Blood vessels, nerves, muscles
The Eye Shape size axes Capsule of Tenon
Tunics: (a) Sclerotic and cornea, (b) choroid, iris and ciliary processes, (c) retina
Refracting Media (a) Aqueous humor, (b) vitreous humor, (c) crystalline lens and capsule.
Appendanges Eyebrows Eyelids, structure. Conjunctiva, portions, folds, structure Lachrymal apparatus, gland, canals, sac, nasal duct.

Physiology of Vision.

Function of media, iris, sclera, choroid and retina.
Refraction: Formation of image, inversion. Accommodation. Defects in focus, hypermetropia, myopia and astigmatism. Effect of age on accommodation, presbyopia.

Monocular and Binocular Vision: Automatic action from intensity of stimulus. Fusion and overlapping of images in binocular vision. Projection from binocular vision.
Field of Vision: Variation for colors and in diseases.
Color Perception: Theories of color perception (color photography). Defective color perception (color blindness.

Diseases of Eyelid and Lachrymal Apparatus.

Eyelid.
Blepharitis: Symptoms, course, treatment.
Stye, chalazion.
Ptosis: Causes, treatment.
Blepharospasm.
Trichiasis, distichiasis.
Entropion, ectrepion: symptoms and treatment of each.
Lachrymal Apparatus.
Dacryocystitis, catarrhal and suppurative; abscess of lachrymal sac.
Stricture of nasal duct.

Second Weekly Meeting.

Diseases of Conjunctiva.

Conjunctivitis.
Catarrhal.—Acute: Causes, association with exanthemata and other diseases. Treatment.
Chronic: Etiology, symptoms, treatment.
Follicular.—Granular: Incidence, diagnosis, differentiation from trachoma.
Vernal: Etiology, symptoms.
Purulent Gonorrheal Ophthalmia.
In the Adult: Symptoms, prophylaxis, treatment.
Ophthalmia Neonatorum: Prophylaxis, diagnosis, treatment.
Non-gonorrheal Ophthalmia: Bacteriology.
Phlyctenular: Symptoms, diagnosis, treatment.
Trachoma. Pterygium.
Trachoma: Etiology, forms (a) papillary, (b) granular, (c) mixed, diagnosis, treatment.
Pterygium: Pathology, course, treatment.

Society Proceedings

COMING MEETINGS.

American Public Health Association, Winnipeg, Can., Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng., Cleveland, Aug. 27-29.
Wyoming State Medical Society, Sheridan, Aug. 28.
New Mexico Medical Society, Albuquerque, Sept. 2-3.
Washington State Medical Association, Walla Walla, Sept. 2-4.
Medical Society of the Missouri Valley, Council Bluffs, Sept 3-4.
Colorado State Medical Society, Denver, Sept. 8-10.
Med. Soc. of the State of Pennsylvania, Cambridge Spgs., Sept. 14-17.

WISCONSIN STATE MEDICAL SOCIETY.

Sixty-second Annual Meeting, held at Milwaukee, June 24-26, 1908.

The President, Dr. W. E. Ground, Superior, in the Chair.

Address of Welcome.

The address of welcome was delivered by Hon. Clinton G. Price, assistant city attorney of Milwaukee, representing the mayor. Dr. W. E. Ground, president, responded.

The Ideal in Medicine.

Dr. William E. Ground, Superior, in his presidential address, pointed out that the aim of the present practitioner was to prevent disease by teaching his patients proper modes of living rather than cure of disease after it was acquired.

Etiology, Pathology and Treatment of Acute Chorea.

Dr. G. H. Fellman, Milwaukee, referred to the evidence in support of the rheumatic theory and stated that it had become so strong that the majority of writers now claimed that chorea was an infectious disease of rheumatic origin. In treatment he recommended rest in bed, proper hygienic and hydrotherapeutic measures, and, in severe cases, a trained nurse. He advised Fowler's solution, beginning with small doses and increasing it rapidly, and watching the patient closely for evidences of arsenical poisoning; also aspirin, belladonna and bromids for sedative effects, and strychnin for mental depression.

DISCUSSION.

Dr. L. Boorse, Milwaukee, stated that there was no unanimity of opinion as *regards the specific nature of the infectious* agent in chorea, and noted the fact that children who developed chorea presented evidence of previous physical deterioration and excessive nervous irritability; that the frequent occurrence of chorea in rheumatism precluded accidental coincidence, but that the evidence was insufficient to conclude that rheumatism was the exciting cause in all cases.

Dr. A. W. Myers, Milwaukee, made the point that about 50 per cent. of all chorea patients ultimately presented signs of chronic valvular heart disease. Chorea should be looked on as an infectious process. Drugs were of secondary importance; rest, diet and hygiene, both physical and mental, were of primary importance. The period of rest in severe cases might have to be prolonged many weeks, and in extremely severe cases absolute isolation might be needed. In cases with a definite rheumatic history he advised trying the effect of the salicylates for a few days.

Dr. A. J. Burgess, Milwaukee, stated that in his experience the disease is infectious. He said that drugs are useless, and recommended rest for the heart. He disapproved of salicylates, as tending to irritate the stomach and offset the effect of diet. He noted the fact that dogs in large number have chorea, and recommended the study of the disease in them.

Dr. D. W. Harrington, Milwaukee, believed that chorea was a disease of the nervous system; not exactly an infectious disease, but the result of a variety of infections, among which he enumerated rheumatism and various fevers, such as scarlet and puerperal fever. He recommended a diet containing vegetable and fruit acids, to increase the alkalinity of the system, and advised salicylate of sodium in cases in which there was a rheumatic condition, not so much for the salicylic acid as for the sodium that would be carried into the body.

Dr. T. J. Redlings, Marinette, deprecated the use of the expression "use a careful diet" as not sufficiently definite. A child of a given weight required a given amount of food relatively. It was easy for the physician to familiarize himself with the food value of the different foods, and say specifically the child should have so many ounces of milk, so many ounces of meat, so much sugar, etc. The infant required a larger percentage of protein. All the text-books used the expression "be careful with your diet," and emphasized the fact that the day had passed when physicians were justified in using it; they must state definitely what the infant should have on the basis of its body and weight.

Dr. G. H. Fellman stated it was just as much proved that chorea was due to rheumatism as that scarlet fever might be due to a certain diplococcus. He endorsed Dr. Redlings' statements as to scientific feeding of infants, but said that individuals vary, and even if fed according to weight could not be nourished by that diet. For that reason the general direction given "be careful of your diet" is more applicable than to state eat this or eat that

After-Care of Obstetrical Cases in Country Practice.

Dr. M. V. DeWire, Sharon, indicated the unfavorable conditions as compared to city practice: no hospitals; patients careless about calling physicians until about time of labor; analysis of urine made only occasionally; usually no measurement of pelvis; conditions in some places being dirty; nurses few, and in many cases unfit. Hemorrhage was the cause of most concern, and he outlined in some detail the approved measures for its control and the after-treatment of these patients.

DISCUSSION.

Dr. J. H. Sure, Milwaukee, disapproved of manipulating uterus or promoting contraction immediately after birth, involution being a physiologic process and requiring some time. He thought it best to leave the placenta so long as there was no bleeding; if there was bleeding the placenta had probably separated and was lying free in the uterine cavity, and in such case it was well to express it, but if expressed before being separated, fragments were liable to be left behind and infection to follow

Dr. G. A. Hipke, Milwaukee, discussed the treatment of postpartum hemorrhage when the Credé method of placenta expulsion was wrongly used after the placenta had been expelled, making no allowance for the natural tendency of the uterus to relax and contract, and preventing thrombus from forming; and also the fact that the case should remain an obstetrical case until involution of the uterus and its appendages takes place and they are in their normal position

Dr. M. V. DeWire stated that notwithstanding the objection of Dr. Sure, he had always made it a rule to examine the cervix immediately following birth, and that when laceration was discovered it was repaired immediately following labor He said that there was no way of determining whether there had been injury except by examination, and that if examination were not made the woman might become an invalid At any rate, examination should be made within three months

Phases of the Practice of Medicine of To-Day

Dr. Walter S. Lincoln, Dodgeville, stated that the practice of medicine had fallen into disrepute some years ago, and that the condition still prevailed to some extent to-day He cited among the causes the wonderful advances of surgery, following the discovery of antisepsis and asepsis, thus eclipsing the purely medical side, the commercial spirit of the age, the medical nihilism He also mentioned the attitude of the surgeon toward the physician and the spirit of jealousy in the profession itself As remedies, he proposed the cultivation of a more tolerant spirit toward each other particularly between specialist and general practitioner, the utilization of new ideas if there is good in them, and the cultivation of a high professional ideal

DISCUSSION.

Dr. J. B. Mears, Fond du Lac, stated that the disease affecting the practice of medicine was inanition, and that he did not think the profession had sunk so low in the estimation of the world as the paper indicated, that he did not believe it had ever had a better position before the world than now, that the wonderful advancement of surgery had opened up the pathway for young men in that field, that medicine had won as many laurels as surgery; that he had little sympathy with those who are lecturing on the withering blight of the 'commercial spirit," and recommended closer association of physicians through county and state societies for mutual benefit

Dr. J. R. Barnett, Neenah, took a middle ground between the two preceding speakers, claiming the one to be pessimistic and the other optimistic, and that the evolution of medicine had been such that to-day medicine was coming into her own

Exceptions to Rules in Administration of Certain Drugs.

Dr. W. G. Kemper, Manitowoc, asserted that in some cases it was necessary to disregard generally accepted rules in applying drugs Confining himself to opiates and ergot, he gave illustrations where such drugs were administered apparently in defiance of the generally accepted authorities. He mentioned two cases of epileptic convulsions in children, in which morphin was administered with good results, and also called attention to the use of ergot in confinement cases He believed that the judicious use of ergot would be of great benefit to mankind, and laid stress on the proper administration of drugs in exceptional cases

DISCUSSION.

Dr. J. R. Barnett, Neenah, said that the sedative dose depends on the degree of severity and the persistence of the convulsive trouble, and that while he thought the treatment of Dr. Kemper as applied was conservative, he also thought it was fortunate that his opportunities had been limited to two cases He had found ergot disappointing, sometimes causing tonic contractions, and sometimes apparent contractions of the circular fibers instead of the longtitudinal fibers

Dr. C. S. Sheldon, Madison, deprecated the use of any cut and dried plan in the use of remedies maintaining that the physician should adopt the means to the end, and adjust his treatment to the condition as he finds it

Dr. M. L. Howison, Menominee, stated that he had used ergot considerably, more especially in early practice, and did not think there was a great deal of danger. He stated that the symptoms preceding hemorrhage will appear in almost every case to warn the physician, without the necessity of keeping the hand over the uterus. He would proceed cautiously in the use of ergot.

Administration of Oxygen for Postanesthetic Nausea and Vomiting.

Dr. R. P. Peairs, Milwaukee, stated that nausea and vomiting occurred more frequently after ether than chloroform, but of a more severe type following chloroform. In 100 cases in which ether was used by the drop method, 64 per cent. of the patients suffered from nausea, vomiting in about the same proportion, but in only 30 per cent. did it occur more than three or four times. The anesthetic itself was the most frequent cause, but the reason for this was not clear. Eighty-four per cent. of women suffered from nausea and vomiting when ether was used. The usual methods of treatment, such as cocain, morphin, etc., are ineffective. He considered the use of oxygen as most beneficial for the relief of this condition, as it was harmless and easily given.

DISCUSSION.

Dr. W. T. Nichols, Milwaukee, strongly endorsed the use of oxygen for the relief of postanesthetic nausea and vomiting He advised careful technic in the preparation of the patient and administration of the anesthetic. The patient should be in as normal condition as circumstances will allow, and the system should contain an abundance of water.

Dr. A. J. Puls, Milwaukee, recommended the inhalation of pure oxygen gas to prevent nausea and vomiting, though stating that while he had failed in three cases, two being complete and one partial, he endorsed the plan of giving plenty of liquid days before surgical interference.

Dr. C. M. Echols, Milwaukee, expressed the opinion that the list of cases was too small to form the basis of anything more than a tentative conclusion.

Dr. J. M. Beffel, Milwaukee, called attention to two cases, in the first of which the patient had had two anesthetics before, with bad results, and was apprehensive as to a third. The anesthetic was administered by Dr. Peairs, and the result was gratifying; the other case was that of a patient in bad physical condition, in which the anesthetic was nitrous oxid, followed by oxygen with correspondingly good results

Dr. Peairs stated that the nitrous oxid and oxygen mixture was the ideal anesthetic, but was objectionable on account of the expense.

Carcinoma of the Breast.

Dr. C. W. Oviatt, Oshkosh, emphasized the importance of an early diagnosis, followed by surgical intervention, and stated that in at least 50 per cent. of cases in the early stage the disease was curable, while in the late stage it was never curable. In the examination the chest should be entirely exposed, the axilla freely palpated, and auscultation practiced, to determine if the disease was advanced. In the hospital work the neoplasm could be subjected to immediate microscopic examination by the freezing method. Physicians should remember that about 80 per cent. of all neoplasms of the breast were primarily malignant, or were destined to become so; pain was not necessarily present in early stages; a retracted nipple was a late symptom. In cancer of the breast untreated and allowed to take its natural course, a fatal result might be expected within three years. In treatment, the knife offered the only remedy worthy of consideration.

DISCUSSION.

Dr. J. M. Dodd, Ashland, recommended educating the people to have growths removed as soon as discovered

The Physiology of the Digestive System.

Dr. Walter C. Cannon, Boston, Mass., delivered the annual address in medicine The address was illustrated with stereopticon views, and the address was confined to studies of the mechanical factors in digestion, the method of study employed being mainly the use of the *x*-ray on animals. The animals were given food mixed with a small amount of subnitrate of bismuth, thereby making it possible to see the movements of the walls of the canal and movements of the food in the stomach and in the small and large intestines with the ray. Dr. Cannon stated in conclusion that the experiments would seem to indicate the necessity of mental tranquillity during digestion, and that in the animals experimented on excitement caused the peristaltic waves to disappear.

Routes of Invasion in Tuberculosis.

Dr. M. P. Ravenel, Madison, confined his address to three different routes: heredity, infections through the alimentary tract, contact, such as kissing or soiled hands, the latter playing a small part in the dissemination of the disease. He stated that hereditary tuberculosis was rare in the civilized world, and gave statistics of orphan asylums, where the children are largely the offspring of tuberculous parents, showing that the disease was almost unknown there. He concluded that inhalation was the chief method of contagion in tuberculosis, but not the only cause, and that in children about 25 per cent. of the cases were due to injection rather than inhalation. He recommended the use of milk from tuberculin-tested cows as a preventive, and general legislation throughout the country requiring milk furnished for public consumption to be furnished only from such tested cattle.

Early Diagnosis of Tuberculosis.

Dr. Thomas H. Hay, Stevens Point, laid emphasis on the fact that early diagnosis is of supreme importance in this disease. He stated that there were from 85 to 90 per cent. of good results in incipient cases, as compared with 12 per cent in advanced cases. There were men in the profession who still believed this to be an incurable disease, which is not the case. When the stage of the disease is reached in which sputum examination revealed tubercle bacilli, the case was no longer an incipient one, dependence on the presence of bacilli not being a safe guide. When a patient showed loss of weight and strength, had feeling of indisposition in the afternoon, and possibly night sweats, slight cough, slight expectoration, catarrhal history, loss of appetite, increased pulse and rise in temperature of from three fourths to one degree in the afternoon, careful and immediate examination is indicated. He gave in detail the usual methods.

Rural Tuberculosis.

Dr. Fred Johnson, North Freedom, stated that too little attention had been paid to the ravages of the white plague in the rural districts. Conditions such as double windows, small stuffy bedrooms, trees and window shades shutting out all light; houses banked up with manure and close proximity of houses to barns, were all conducive to spread of infection. He referred to milk as a fine culture medium, and to the care that should be exercised in its handling, including testing of cattle for tuberculosis.

Tuberculosis.

Dr. N. L. Howison, Menominee, advised national laws prohibiting the marriage of tuberculous persons. The ideal plan for treatment was the sanatorium or private hospital. Patients should be informed at the beginning that they had consumption, and that their recovery depended largely on themselves. He recommended fresh air, sunshine, proper food, exercise, and at least nine hours of sleep. Exercise causing sudden rise of temperature should be discontinued; drugs play a subordinate part; he has found stimulants always beneficial, if given in diluted form. He attributed growth of tuberculosis to methods of living in modern civilization. People should not be afraid to come in contact with tuberculous individuals, but should instruct them along lines by which they may protect themselves and others. The disease should be reached in its incipiency through early diagnosis and examinations, with patient stripped to the waist, carefully made by the stethoscope and by percussion and examination of sputum and careful record of temperature. Sputum can be examined free at all times in the State Hygienic Laboratory at Madison, and in addition to the examination, when sputum is sent in, a pamphlet will be returned with a report of the examination, to the physician, which pamphlet can be handed to the patient, and will outline to the patient the principles of care that he should exercise.

Discussion on Tuberculosis.

Dr. H. A. Dearholt, Madison, raised the point that the doctors should enter politics and get into communication with the various health departments and take prominent part in the crusade against tuberculosis.

Dr. C. H. Stoddard, Milwaukee, illustrated by the use of diagrams the method of Kroenig, a method not mentioned in any text-book on physical diagnosis or practice. The method consisted of percussion with the hammer or pleximeter over the apices of the lung using a dermographic pencil, and afterward making comparison.

Dr. J. M. Beffel, Milwaukee, stated that in view of the enormous death rate from tuberculosis, he considered that the efforts of the profession should be directed largely toward its prevention rather than its cure. He gave figures showing the death rate, and stated that from a commercial aspect it was costing the United States $370,000,000 yearly. Great work had been done in the direction of prevention and cure of this disease in Milwaukee, and it must go on through the state.

Dr. Ravenel *stated that he had seen only one* case in which liquor was indicated, and thought that liquor in any form was bad in the cure of tuberculosis. He endorsed the practice of stripping the patient to the waist on examination. He did not believe in giving the patient a hopeless diagnosis, as mental therapeutics in this disease was very valuable, and every encouragement should be held out, but the truth should always be told because rigid discipline is necessary for the cure. He reiterated his belief that milk used for human consumption should be from tuberculin tested cows.

Dr. N. L. Howison, Menominee, replying to Dr. Ravenel, stated that there was great variance of opinion regarding the use of stimulants in the treatment of consumption; that he did not use strong stimulation, but had secured good results by the use of mild stimulants.

(To be continued.)

AMERICAN ORTHOPEDIC ASSOCIATION.

Twenty-second Annual Meeting, held in Chicago, June 4-6, 1908.

(Continued from page 431.)

Paralysis of the Shoulder, Especially Its Mechanical Treatment.

Dr. David Silver, Pittsburg, first considered the relative frequency of paralysis of the upper extremity, and the reason for the regression of the paralysis in the arm and for the tendency to its more frequent persistence in the deltoid. He reiterated the principle of relaxation in the treatment of paralyzed muscles, and described its application to the shoulder by means of a simple and comfortable appliance. Cases treated by this method were reported, and photographs exhibited.

Presentation of Apparatus.

Dr. Phil Hoffman exhibited a modified osteoclast, and Dr. Compton Riely, a new osteoclast, a safety paralytic knee-brace lock, a combination Club Foot shoe and brace, and a Club Foot brace. Mr. Little exhibited drawings of his osteoclast, which he had not brought with him.

DISCUSSION.

Dr. J. Ridlon, Chicago, criticised all three osteoclasts and said that he preferred the Gratin.

Dr. E. Ryerson, Chicago, said that with the lever osteoclast one is liable to keep on pressing after the leg has been broken and to push the fragment through the skin.

Dr. Wilson was pleased with the Little osteoclast, which he considered the simplest, most efficient and easiest to manage of any he knows of. He would not use it for adult bones, however.

Dr. Hoffman said that he has used his instrument for five years. He said that the bearings of his osteoclast are as strong as those of the Gratin, and that it will break bones as easily. It is the other parts that are lighter, thus making

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

July 25.

1 Complicating Exophthalmic Goiter. C. G. Stockton and A. E. Woehnert, Buffalo
2 *Supposed Evils of Expert Testimony. F. X. Dercum, Philadelphia.
3 *Expert Testimony and the Alienist. W. A. White, Washington, D. C.
4 *Intrapelvic versus Abdominal Treatment of Mechanical Dystocia. E. H. Grandin, New York.
5 Dog Days: The Physician's Vacation. J. Knott, Dublin.
6 *Conjugal Diabetes. A. C. Croftan, Chicago.
7 *The Doctor as a Public Educator. P. Van Fleet, New York.

2. **Expert Testimony.**—Dercum says that much misunderstanding exists, especially on the part of physicians, as to the nature of expert testimony and as to its proper rôle and functions; that much has been said from time to time of the evils, so called, of expert testimony, and that every now and then correctives for these supposed evils are proposed, which he believes to be very unwise. He refers particularly to a paper on psychiatric expert evidence in criminal proceedings (*New York Medical Journal*, March 7, 1908; abstracted in The Journal, March 21, p. 991). Expert evidence differs from ordinary evidence in that it is essentially opinion evidence. Dercum discusses the qualifications necessary to constitute an expert and opposes any attempt to limit the expert to an official class. As to the so-called evils of expert testimony, observations in the courts extending over a quarter of a century have convinced him that these evils are greatly exaggerated, and are due, not to methods of legal procedure, but to the expert himself. The bias of the expert is the first evil. Instead of regarding himself as a witness he often assumes the rôle of counsel. Before the trial he should form an unbiased opinion on the facts and present it to the counsel employing him, without regard to the contention of that counsel, and if the opinion is favorable it should also present all the facts, favorable or unfavorable, with equal force. After forming his opinion, the conscientious expert should rearray the facts in his mind and see how they would favor a conclusion opposite to that which he has reached. Other difficulties are due to the ignorance of the witness as to the nature of evidence, both lay and expert, to a faulty method of presenting the testimony, and to the use of technical terms. Dercum discusses the hypothetical questions and the method and demeanor of the expert. As to the question of opposing experts, it is not so much the members of the bar or the courts, but physicians themselves, who keep alive this reproach, as Dercum believes from an entire misconception of the facts. Differences of opinion regarding actual findings are usually slight; it is in their interpretation that the greatest differences are found, and here they may be perfectly legitimate. Most trials as regards insanity deal really with borderland cases, and in this class very many cases occur which are not litigation cases; nevertheless competent opinions differ concerning them. In every department of knowledge similar differences of opinion are developed. For instance, in a large number of cases in the Supreme Court of the United

is not whether the offender stole $34 or $36 (and is, therefore, to be indicted for petit or grand larceny, respectively), but what manner of man is he? To answer this, it is necessary to make an analysis of the individual and the causes leading up to the offence. White approves of the method practiced in St. Louis, of committing the accused criminal insane for observation at the state hospital for insane.

4. Abstracted in The Journal, July 4, 1908, p. 70.

6. **Conjugal Diabetes.**—Croftan discusses the statistics of conjugal diabetes, and insists that it is clear in most cases that one is dealing with more than a coincidence. He insists that whenever diabetes is found in a patient it should be looked for in the mate.

7. **The Doctor as Educator.**—Van Fleet discusses the medical practice laws, which he considers defective, in that they fail to protect the public against irregular practitioners and nostrum sellers, and at the same time are raising the standard of qualification so high that only persons of more or less independent means can wisely enter on the practice of medicine. The physical defects of school children, the prevention of tuberculosis, animal experimentation, etc., are also considered as matters in which the educative influence of the physician should be exercised.

Boston Medical and Surgical Journal.

July 23.

8 *Diagnostic and Therapeutic Use of Tuberculin. L. Brown, Saranac Lake, N. Y.
9 Permanent Stenosis of Common Duct from Inflammation or Duodenal Ulcer. H. Packard, Boston.
10 *Melano-Sarcoma of the Orbit. G. McConnell and R. Burman, St. Louis.

8. **Tuberculin.**—Brown discusses the diagnostic use of tuberculin by the cutaneous, the conjunctival and the subcutaneous methods; also the contraindications to its diagnostic use. He then considers its therapeutic use, discusses the varieties of tuberculin, the methods of administration, dosage, and interval, and says that the present status of tuberculin therapy may be expressed in a few words as follows: Tuberculin, when properly given, does no harm, may produce no apparent immediate results, but may markedly benefit an individual patient who can follow at the same time the hygienic-dietetic treatment while in a health resort or at home and at rest. It may even prove of benefit to those who must continue at work. Small doses and careful increases are most important, and by following these very closely some patients, even in advanced stages, reap great benefit. The immediate and ultimate results of treatment are that the patients are often improved, fewer relapses occur, and more patients lose the tubercle bacilli in their sputum.

10. **Melano-Sarcoma of Orbit.**—McConnell and Burman report a case of melano-sarcoma of the orbit, showing the unusual interval of nearly eight years between the first indication of trouble and the death of the patient. A point of pathologic interest was the great enlargement of the liver, due mainly to extreme hyperplasia of bile ducts. There were no secondary growths.

Medical Record, New York.

July 25.

11 History of Medicine in Province of Quebec, from 1535 to 1838. H. S. Birkett, Montreal.

lateral curvature. These are caused by a distinct pathologic process, which appears at puberty and, after running a definite course, disappears and leaves the spine deformed. After the disease has run its course, the deformity is incurable, although the posture may be improved.

DISCUSSION.

Dr. **McKenzie** said that he had seen a well-marked case of lateral curvature in an infant.

Dr. R. W. **Lovett**, Boston, said that other statistics than those used by the author of the paper showed that many cases of lateral curvature appear before the age of 10. He suggested that the condition may follow empyema, the curvature being to the sound side of the chest, and may also follow infantile paralysis of the muscles of one side of the back. He thinks that many curves are due to structural causes.

Dr. H. M. **Sherman**, San Francisco, said that he wrote a paper some time ago, stating his belief that scoliosis is due to a condition in the bone, probably rickets. This would give a basis for the structural change, followed by the definite deformity.

Dr. P. W. **Nathan** said that the statistics quoted merely confirmed his own findings. He admitted that empyema and infantile paralysis do sometimes produce scoliosis. The remainder of the cases that are not plainly due to rickets he considered to be those that come on before adolescence and immediately after puberty.

Mechanics of the Shoulder Joint from an Anatomic Viewpoint.

Dr. Joel E. **Goldthwait**, Boston, said that erect position of the shoulder is that of greatest stability, there being from 50 to 60 degrees less motion in the rotation of the humerus in the glenoid cavity than when the shoulder droops forward. In the latter position, the lesser tuberosity of the humerus rests against the coracoid process, which is not above the head of the bone, but in front of it, in this droop shoulder position. This leads to irritation at the point of pressure and to inflammation of the coracobrachialis bursa. The restriction of motion at this point that such an inflammation causes, with the change in the angle of the pull of the long head of the biceps tendon, favors and makes easy displacements of the head of the humerus.

DISCUSSION.

Dr. H. P. H. **Galloway**, Winnipeg, Manitoba, asked whether or not the cases of subdeltoid bursitis are associated with subcoracoid bursitis, and whether it is possible to know whether the trouble is due simply to the coracoid bursa or to the subdeltoid.

Dr. **Stern** asked the treatment in cases of subdeltoid bursitis.

Dr. **Albee** referred to two cases of dislocation of the shoulder in young men, on whom he had operated by a modification of Burrell's method, with satisfactory results, neither patient having had any recurrence of the dislocation.

Dr. **Arnold** has observed that when he has tried to relieve the shoulder from weight-bearing by putting it in a high sling the patients had more pain than when the arm was hanging down.

Dr. J. E. **Goldthwait**, replying to a question, said that in writing the paper he had in mind the ordinary spring-back brace. He believes that the ordinary position in which surgeons place the shoulder after traumatic dislocation is not the best position, being equivalent to the forward position of the shoulder. The arm should be tied to the side, rotating it outward at a right angle. In answer to Dr. Galloway, he said that subdeltoid and subcoracoid bursitis are frequently associated, but that often there is not subdeltoid bursitis. The treatment in subdeltoid bursitis, he said, is the same as the treatment of any other bursa. When an operation is performed, if the patient is not naturally erect, the surgeon should insist on the shoulders being thrown back.

Occurrence of Anterior Poliomyelitis in Massachusetts in 1907. Investigations by the State Board of Health.

Dr. Robert W. **Lovett**, Boston, in this paper, gave the result of an inquiry addressed to every physician in Massachusetts, asking for a report of the cases seen in 1907. An analysis of 238 cases reported, with regard to distribution, time of occurrence, evidence of contagion, and other factors bearing on etiology, showed that the data obtained pointed to separate foci of infection, with transmission to neighboring towns.

Necessity for Early Orthopedic Treatment of Poliomyelitis.

Dr. Wisner R. **Townsend**, New York, stated that the majority of cases of poliomyelitis are followed by deformities, practically all of which can be prevented by appropriate treatment. This may occur soon after the attack. Orthopedic treatment is desirable from the beginning. He gave statistics of the deformities occurring within eight months after the epidemic of 1907 in and around New York City.

Results in the Treatment of Infantile Paralysis.

Dr. E. H. **Bradford**, Boston, presented this paper early in the session, but it was discussed in connection with other papers on poliomyelitis.

Discussion on Poliomyelitis.

Dr. W. R. **Townsend**, New York, in relation to cases of recovery mentioned in Dr. Lovett's paper, said that he had not seen one genuine case of complete recovery. The cases in which recovery had been pronounced complete were those in which there had been marked depression, and the paralysis had not been relieved, although this weakness had been improved.

Dr. **McKenzie** described an epidemic of the disease in Canada in 1905 or 1906. He saw none of the cases during the attack, but the conditions in those that he saw afterward were similar to the conditions ordinarily following infantile paralysis. In two families three children in each were left badly crippled by the illness. In the treatment he laid a great deal of emphasis on education. He cited at length a case to show the effects of educating the child gradually to use apparatus.

Dr. J. **Ridlon**, Chicago, said that during the last four years he has seen several cases of anterior poliomyelitis in adults, and that care should be taken not to overlook its symptoms when they appear in older persons.

Dr. **Riely** laid emphasis on the beneficial effects of rest in these cases and mentioned an illustrative case.

Dr. **Arnold** said that the late epidemic of poliomyelitis had been felt in Connecticut also, where the same phenomena were noted as in Dr. Lovett's cases. He said that the disease also occurs epidemically among dogs, cats and chickens. He has seen cases of complete recovery, especially in chickens. These epidemics usually occur in the fall, and wet seasons are prone to bring them about. He suggested the use of these animals for the purpose of studying the pathology of the disease. As a transition between complete rest and putting the child on its feet he suggested exercise on the floor.

Dr. H. M. **Sherman**, San Francisco, referred to the use of electricity in such cases, and said that he regarded it merely as a means of irritating the child. He has always succeeded in getting a fair idea of the child's power to use the various muscles by tickling it or by picking its foot with the end of a match, in order to get it to try to use the muscles. He does not see how faradism to the muscles can affect the condition of the spinal cord, which is the seat of the disease. He suggested that pediatrists, when called in to see a sick child, should always test its power to use its muscles, as well as examine its throat.

Dr. **Peckham** was in sympathy with Dr. Townsend's plea for orthopedic treatment of these infantile cases, as well as with Dr. Sherman's views regarding electricity. He has given up the use of the latter.

Dr. H. M. **Sherman** remarked that a large number of cases of paralytic clubfoot and paralyzed legs of mild type appear with no history of a previous sickness to account for the condition.

Dr. **McKenzie** said that faradism will produce no contraction in a muscle that has the reaction of degeneration.

Dr. J. E. **Goldthwait** denied that it is commonly supposed that the disease is confined to children.

Mr. **Little** said that his experience in England had been also that the commonest history in such cases had been that the child had gone to bed well and awakened paralyzed.

the instrument portable. It is much simpler than the Gratin, and can be taken apart and cleaned It is also cheaper.

Dr. Rilly said that the lever of his osteoclast could be released instantly. While it might be a little trouble to place the leg in the rings, there is no danger of its being caught there.

Operative Treatment of Intracapsular Fracture of the Hip-Joint—Operative Treatment for Paralytic Eversion of the Foot.

Dr G. G. Davis, Philadelphia, reported three cases in which, by open incision, the edges of an ununited fracture were freshened, and then the limb was put up in the abducted position, in plaster of Paris The result in both the first two cases was good The third patient could walk without support on her discharge from the hospital, but subsequently had an attack of rheumatism in the leg operated on, requiring her to use crutches.

DISCUSSION.

Dr. Wilson said that he reported a case in which a nail had gone further than he intended, and had penetrated the acetabulum, without causing any alarming conditions He thought that this result must have been the reason for his success in other cases. In the case reported, the patient was so pleased with the result that she refused to have the nail removed He had not intended the nail to be so long but had miscalculated, not having allowed for the pushing of the separated fragments together in the process of driving home the nail

Dr Stewart L McCurdy, Pittsburg, said that if the nail is within the capsule, and if the force used has been considerable, the ligamentum teres will be injured and its nutrition destroyed, the nail remaining in the joint as a foreign body He has removed the nail in three cases in which this had happened and caused great pain Each patient made a good recovery, and goes around on crutches.

Dr Peckham mentioned four cases in which he performed this operation He wondered whether it would not be a good thing to make the nail intentionally long enough to go into the acetabulum.

Dr Willard described a screw invented by one of his assistants. The screw part is made of ivory, and the head of brass. The head is removed, and the ivory subsequently becomes a part of the bone.

Dr Davis said that if in Dr Peckham's cases he had got good union, even though with some shortening, he should be satisfied.

Surgery of the Motor Peripheral Nerves.

Dr. Alfred S Taylor, New York, said that the application of surgery to peripheral nerves is based on the power of nerves to regenerate, the power of one nerve to assume vicariously the function of another nerve of the same type, and the persistence of muscle for the regenerated nerve to act on. The time that has elapsed since the onset of paralysis is of variable importance, while the condition of the paralyzed muscles is of prime importance. Accessory factors influencing the results are contractures of muscles and ligaments and undergrowth and deformity of bones, especially at the joint ends. He described the technique in end to-end suture (nerve crossing, if necessary), various methods of lateral anastomosis, and bridging and transplantation giving the after treatment and results of each.

DISCUSSION.

Dr. E. Ryerson, Chicago, does not think Spitzy's method of nerve transplantation rational, and he considers Murphy's procedure dangerous. He does not feel that one is justified in taking off healthy nerves to attach to a diseased one He suggested the use of the dog's artery, instead of catgut, in the brachial plexus cases.

Dr. Davis said that the question of injuring the healthy nerve into which the paralyzed nerve is transplanted requires great consideration. In one case of deltoid paralysis he produced a temporary wrist-drop.

Dr. Young said that he has united the two largest nerves in the body. The results were only moderately successful. By using fine instruments he found that he could avoid injuring the nerves.

Dr. H. M. Sherman, San Francisco, asked whether or not the scar tissue might not grow again, after having been removed. He thinks that it would be wiser to wait to see whether or not power would return in a case of birth palsy than to subject the child to the danger of operation.

Dr. Stern described a case in which he operated for the cure of athetoid motion in the hand. The athetoid motion was almost entirely abolished, and the patient has sensation in the arm, but no voluntary motion.

Dr. Charles E. Thomson, Scranton, Pa., said that he always employs catgut in his work. He described an operation done for nerve injury in each of five cases. The result in four was very satisfactory. The fifth was a case in which the spinal cord had been completely crushed. Dr. Thomson freed the two nerves on each side and traced them out along the ribs. He then drew them in, passed them down, and united them to the nerves below the injury. Nothing of the ultimate result could be known, because the man died of an abdominal injury received at the same time as the injury to the cord.

Dr Samuel C. Baldwin, Salt Lake City, said that the lack of success in these cases may be due to cicatricial constriction of the nerves, as he found in operating for a second time in one case He removed the scar tissue and secured a good result

Dr A. S. Taylor, New York, said that before a decision can be reached regarding the relative advantages of lateral implantation and end-to-end anastomosis, some experimental work must have been done. The use of arteries for bridging is good theoretically, but he does not see how it would be possible to keep an adequate supply always on hand. Although the parents have been pleased with the result, there was no physical evidence of improvement in the actual results. One has to expect a certain amount of regrowth of connective tissue. His experience has been that at the end of two or three months there is a spontaneous improvement which continues for about two years and then stops.

Operation for Burn Scars. Correction of Deformities Following Colles' Fracture.

Dr. Stewart L. McCurdy, Pittsburg, said that the operation for burn scars consists in extending cicatricial bands across joints by splitting them along the crest from end to end, and cutting to the right at a right angle from the end of the first cut, and to the left at the other end. The flaps thus made are dissected loose from the deep tissues. As the contracted portion is extended, the angles of the flaps drop into the corners left by the end or right-angled incision. In the other paper, he gave suggestions for the early treatment of Colles' fracture. The method of correcting the deformity consists in opening the seat of fracture, separating the bones, reducing, breaking up adhesions, and treating as a recent fracture.

DISCUSSION.

Dr H. M. Sherman, San Francisco, referred to the difficulty in reducing the deformity after the fragments have become separated and in holding the fragments in proper position afterward. The force required is sufficient to produce sloughing or interfere with the circulation. The posture treatment should be followed, instead of pressure to hold the fragments in place.

Dr. Peckham mentioned a case in which one-third of the body was severely burned. The surface had completely healed, leaving no scar whatever.

Dr McCurdy referred to an explosion in which a large number of persons were burned, but in which no keloid had formed In none of his cases of fracture had there been either sloughing or infection. It is important, he said, to break up the adhesions thoroughly and to make the correction at the time of the operation.

Etiology and Treatment of Lateral Curvature.

Dr P. W. Nathan, New York City, stated that abnormal weight-bearing can not be the cause of spinal deviation. Static conditions are never responsible for organic or structural lateral curvature. These are caused by a distinct pathologic process, which appears at puberty and, after running a definite course, disappears and leaves the spine deformed. After the disease has run its course, the deformity is incurable, although the posture may be improved.

DISCUSSION.

Dr. McKenzie said that he had seen a well-marked case of lateral curvature in an infant.

Dr. R. W. Lovett, Boston, said that other statistics than those used by the author of the paper showed that many cases of lateral curvature appear before the age of 10. He suggested that the condition may follow empyema, the curvature being to the sound side of the chest, and may also follow infantile paralysis of the muscles of one side of the back. He thinks that many curves are due to structural causes.

Dr. H. M. Sherman, San Francisco, said that he wrote a paper some time ago, stating his belief that scoliosis is due to a condition in the bone, probably rickets. This would give a basis for the structural change, followed by the definite deformity.

Dr. P. W. Nathan said that the statistics quoted merely confirmed his own findings. He admitted that empyema and infantile paralysis do sometimes produce scoliosis. The remainder of the cases that are not plainly due to rickets he considered to be those that come on before adolescence and immediately after puberty.

Mechanics of the Shoulder Joint from an Anatomic Viewpoint.

Dr. Joel E. Goldthwait, Boston, said that erect position of the shoulder is that of greatest stability, there being from 50 to 60 degrees less motion in the rotation of the humerus in the glenoid cavity than when the shoulder droops forward. In the latter position, the lesser tuberosity of the humerus rests against the coracoid process, which is not above the head of the bone, but in front of it, in this droop shoulder position. This leads to irritation at the point of pressure and to inflammation of the coracobranchialis bursa. The restriction of motion at this point that such an inflammation causes, with the change in the angle of the pull of the long head of the biceps tendon, favors and makes easy displacements of the head of the humerus.

DISCUSSION.

Dr. H. P. H. Galloway, Winnipeg, Manitoba, asked whether or not the cases of subdeltoid bursitis are associated with subcoracoid bursitis, and whether it is possible to know whether the trouble is due simply to the coracoid bursa or to the subdeltoid.

Dr. Stern asked the treatment in cases of subdeltoid bursitis.

Dr. Albee referred to two cases of dislocation of the shoulder in young men, on whom he had operated by a modification of Burrell's method, with satisfactory results, neither patient having had any recurrence of the dislocation.

Dr. Arnold has observed that when he has tried to relieve the shoulder from weight-bearing by putting it in a high sling the patients had more pain than when the arm was hanging down.

Dr. J. E. Goldthwait, replying to a question, said that in writing the paper he had in mind the ordinary spring-back brace. He believes that the ordinary position in which surgeons place the shoulder after traumatic dislocation is not the best position, being equivalent to the forward position of the shoulder. The arm should be tied to the side, rotating it outward at a right angle. In answer to Dr. Galloway, he said that subdeltoid and subcoracoid bursitis are frequently associated, but that often there is not subdeltoid bursitis. The treatment in subdeltoid bursitis, he said, is the same as the treatment of any other bursa. When an operation is performed, if the patient is not naturally erect, the surgeon should insist on the shoulders being thrown back.

Occurrence of Anterior Poliomyelitis in Massachusetts in 1907. Investigations by the State Board of Health.

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Results in the Treatment of Infantile Paralysis.

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Dr. W. R. Townsend, New York, in relation to cases of recovery mentioned in Dr. Lovett's paper, said that he had not seen one genuine case of complete recovery. The cases in which recovery had been pronounced complete were those in which there had been marked depression, and the paralysis had not been relieved, although this weakness had been improved.

Dr. McKenzie described an epidemic of the disease in Canada in 1905 or 1906. He saw none of the cases during the attack, but the conditions in those that he saw afterward were similar to the conditions ordinarily following infantile paralysis. In two families three children in each were left badly crippled by the illness. In the treatment he laid a great deal of emphasis on education. He cited at length a case to show the effects of educating the child gradually to use apparatus.

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Dr. Riely laid emphasis on the beneficial effects of rest in these cases and mentioned an illustrative case.

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Dr. H. M. Sherman remarked that a large number of cases of paralytic clubfoot and paralyzed legs of mild type appear with no history of a previous sickness to account for the condition.

Dr. McKenzie said that faradism will produce no contraction in a muscle that has the reaction of degeneration.

Dr. J. E. Goldthwait denied that it is commonly supposed that the disease is confined to children.

Mr. Little said that his experience in England had been also that the commonest history in such cases had been that the child had gone to bed well and awakened paralyzed.

Dr. H. L. Taylor stated, as the result of his observation, that a careful examination of the voluntary power by a competent orthopedic surgeon would usually prove more useful than a report of the electrical examination by a neurologist. He has received reports of this kind absolutely misleading in the light of the clinical examination. He has found treatment to be absolutely harmful during the attack and for the first two months afterward and to be absolutely useless after that time.

Dr. R. Lovett said that his reason for writing the paper was to call the attention of general practitioners to the inquiry, thus enabling them to recognize these cases better. He thinks that the most sensible treatment would be to empty the bowels rather than to blister the spine. He considers the disease an intestinal infection with an anaërobic bacillus such as might be obtained through milk. He believes that the matter of partial paralysis receives too little attention. A muscle may be either partly or completely paralyzed, or may be simply stretched and disused. Between the stages of activity and paralysis there is a stage of slight weakness. More attention should be paid to voluntary attempts to move muscles and less to massage and electricity.

Dr. W. R. Townsend, New York, said that an educational campaign would accomplish more if the orthopedists allowed electricity to be employed, even though they do not believe in it.

Drop Phalanx.

Dr. Walter G. Stern said that the essential lesion in this condition is a subcutaneous rupture, or an overstretching of the extensor tendon at or near its insertion into the distal phalanx. The deformity is produced by indirect violence, often slight. The power of active extension of the phalanx is lost, and the phalanx drops down and remains flexed at a right angle. Passively, the finger can be fully extended.

DISCUSSION.

Dr. H. I. Taylor asked how many cases had been treated by splinting and how many operations; also the duration of the deformity.

Dr. Stern replied that in three of his eight cases he found it necessary to suture. The remainder were treated by splinting for six weeks. These were recent cases, the patients were operated on within a few weeks after the occurrence of the injury.

Typhoid Spine.

Dr. George B. Packard, Denver, reported cases, giving the histories, duration, diagnosis and treatment. In some there was evidence of structural change.

DISCUSSION.

Dr. Rugh said that he had had two cases, one of which was very much of the character of those described by Dr. Packard. The other was one of severe injury following the delirium of typhoid. The progress of the typhoid spine was so much more rapid than that of the tuberculous condition also present that Dr. Rugh believed that the diagnosis had been made out.

Dr. J. E. Goldthwait said that in many cases of typhoid spine there is no inflammatory condition, and posture relieves these cases.

Dr. John L. Porter, Chicago, has found that patients who had left the hospital and returned later usually say that they had had pain in the spine since shortly after getting up and around. He believes that the severity of the condition is in proportion to the amount of inflammatory reaction that takes place. All his patients recovered under the sole treatment of keeping them flat on the back.

Painful Feet of Raynaud's Disease.

Drs. H. Augustus Wilson and **Charles H. Muschlitz**, Philadelphia (paper read by the former), said that the painful feet of Raynaud's disease are of a peculiar character. The pains are symmetrical, worse in cold weather, easily affected by use, and not immediately relieved by rest, and frequently the pain continues for a long time after the discontinuance of the function that has produced it. Characteristic bilateral gangrenous spots develop. The most trivial operative procedures are followed by non-healing and sloughing. Nails, when they become loose, slough more or less extensively if forcibly removed. Pressure apparatus of any kind is productive of sloughing and gangrenous spots.

Medicolegal

Additional List of Alcoholic Medicinal Preparations for the Sale of which Special Tax is Required.

Continuing the list (Circular 713, of Dec. 3, 1907) of alcoholic medicinal preparations for the sale of which the United States government requires a special tax, Internal Revenue Circular No. 727 of July 1, 1908, gives the following additional list of similar preparations, analyzed and passed on since the date of Circular 713:

American Alimentary Elixir.
Aromatic Bitters.
Bismarck Laxative Bitters.
Bismarck's Royal Nerve Tonic.
Blackberry (Karles Medicine Company).
Blackberry Cordial (International Extract Company).
Blackberry Cordial (Irondequoit Wine Company).
Blackberry Cordial (Strother Drug Company).
Blackberry and Ginger Cordial (Standard Chemical Company).
Black Tonic.
Coca Wine.
Colasaya.
Dr. Brown's Blackberry Cordial.
Dr. Brown's Tonic Bitters.
Dr. Hopkins' Union Stomach Bitters.
Dr. Hoffman's Golden Bitters.
Dr. Sterki's Ohio Bitters.
Dubonnet.
Dubonnet Wine.
Elixir of Bitter Wine (Pleasant Tonic Bitters Company).
Elixir Calisaya.
Eucalyptus Cordial.
Ferro China Bascal.
Ferro China Bissler.
Ferro Quina Bitters.
Fine Old Bitter Wine.
Gastrophan.
Gentian Bitters.
Genuine Bohemian Malted Bitter Wine Tonic.
Glycerin Tonic (Elixir Pepsin).
Greiner's Blackberry Cordial.
Health Bitters.
Herbton.
Herbs Bitters.
Jack Pot Laxative Bitter Tonic.
Jarvis Blackberry Brandy.
Juniper Kidney Cure.
Karlsbader Stomach Bitters.
Kola and Celery Bitters.
Kola Wine.
Kreuzberger's Stomach Bitters.
Lee's Celebrated Stomach Bitters.
Mikado Wine Tonic.
Milburn's Kola and Celery Bitters.
Miod Honey Wine.
Neuropin.
Newton's Nutritive Elixir.
O'Hare's Bitters.
Old Dr. Jacques' Stomach Bitters.
Our Ginger Brandy.
Ozark Stomach Bitters.
Pepsin Stomach Bitters.
Peptonic Stomach Bitters.
Pioneer Ginger Bitters.
Quinquina Dubonnet.
Rimsovo Malto-Sove Vino Chino.
Severas Stomach Bitters.
Sirena Tonic.
Smart Weed.
Steinkonig's Stomach Bitters.
St. Raphael Quinquina.
Strauss Exhilarator.
Tatra.
Tolu Rock and Rye.
True's Magnetic Cordial.
White's Dyspepsia Remedy.
Zeman's Medicinal Bitter Wine.

Privilege Does Not Extend to Mere Observer of Operation.

The Supreme Court of Iowa says that the suit of Woods vs. Incorporated Town of Lisbon was to recover damages alleged to have been caused by a defective sidewalk. It was alleged that the injuries received produced a miscarriage and otherwise permanently injured the plaintiff, who, on account of said injuries, was compelled to go to a hospital for treatment. Certain operations were performed by Dr. C., with the assistance of Dr. Y., and in the presence of still others. The defendant contended that the plaintiff's fall had not produced a miscarriage, and that the operations were made necessary by a diseased condition that existed at the time of the accident. Neither Dr. Y. nor the Drs. C. were called by the plaintiff to show her condition before she was taken to the hospital, or at that time, nor did either of them testify as to the character of the operations performed for the plaintiff. But a Dr. B. witnessed one of the operations, and was called by the defendant to testify relative thereto. On his preliminary examination it appeared that he had never met Dr. Y. before the day of the operation, and that on that day he met him on the street while on his way to the hospital. Dr. B. had been employed by the defendant to be present at the operation if possible, and he in fact went to the hospital when Dr. Y. did. Before reaching the hospital Dr. Y. told Dr. B. what the operation was to be, but neither at that time nor at any other time was there any consultation between them as to the case, or as to the nature of the operation about to be performed. The testimony showed absolutely that the relation of physician and patient did not exist, that Dr B in no way participated in the work, and that he was merely an observer thereof

The trial court held Dr B an incompetent witness under Section 4608 of the Iowa Code That section provides 'no practicing physician surgeon who obtains such information by reason of his employment shall be allowed in giving testimony, to disclose any confidential communication properly intrusted to him in his professional capacity and necessary and proper to enable him to discharge the functions of his office according to the usual course of practice or discipline" The Supreme Court holds the trial court's ruling erroneous

The statute the Supreme Court says, has been construed to include knowledge or information acquired by the physician by observation or examination And if the relationship of physician and patient had existed at the time in question the ruling would have been correct But as stated above, there was no such relationship and without it the testimony offered was clearly competent There was no confidential relation, and hence no privilege existed

The plaintiff urged that Dr B was not in the operating room with her consent, or that of her husband and that because thereof he could give no testimony as to what he observed The court however knows of no authority going to this extent, but, on the contrary, such a holding would be directly adverse to the rule of the cases and to the language and intent of the statute itself

In Sutcliffe vs Traveling men's Association, 119 Iowa 220 it is said that the mere presence of the physician did not render the communication confidential when not such in fact And in State vs Height, 117 Iowa, 650, this court held that the testimony of a physician who had made an examination of a man against his will was competent because the confidential relation protected by the statute did not exist

"Immediate" and "Proximate" Causes of Death

The Supreme Court of New York, Appellate Division, Second Department, says that in the case of Ostrander vs Orange County Traction Co an action to recover for a party's death the company insisted that the injuries received at the time of the accident were not the proximate cause of death, that the evidence did not connect the accident with the immediate *cause of death* The attending physician testified that death resulted from edema of the lungs, superinduced by heart disease But it was urged that testimony that the immediate cause of death was edema of the lungs and heart disease signified nothing here as the material question involved was, not the immediate cause of death but the proximate To the court, however, it seemed that the immediate cause of death was of great significance On that must depend the question of *proximate cause* The proximate cause of death must be the cause that produced the condition resulting in death and if it was conceded as it was here, that the immediate cause of death was edema of the lungs due to heart disease then the plaintiff was bound to show that the accident produced or at least developed the heart disease with its consequent edema of the lungs Evidence that the deceased suffered from paralysis that the injury was sufficient to produce paralysis and that paralysis might result in death, would be sufficient to sustain the plaintiff's judgment, if it was shown that the deceased actually died from paralysis, or if it was shown that paralysis was the inducing cause of the heart disease with its consequent edema of the lungs but when it was once conclusively shown that the immediate cause of death was edema of the lungs it was incumbent on the plaintiff to show not that the deceased was afflicted with paralysis which might have resulted in death but that this paralysis had some definite relation to the edema It was not material how seriously she might have been injured If she did not die as the result of such injuries then the plaintiff in this action depending entirely on her death was not entitled to recover damages For instance if the deceased had died from smallpox the plaintiff in this action would not be entitled to recover because her intestate might have been injured in an accident on the defendant's railroad and that was equally true of the cause of death which was conceded to have existed The rule is that the question to be determined is Was there an unbroken connection between the wrongful act and the injury—a continuous operation? Did the facts constitute a continuous succession of events so linked together as to make a natural whole, or was there some new and independent cause intervening between the wrong and the injury? In this case the deceased died from edema of the lungs, and no fact was produced to show that edema of the lungs could have been produced by the accident, and without such facts the plaintiff failed to show that she was entitled to recover in this action, for the reason that it was not shown that the death was due to any fault on the part of the defendant There must be a connection of the accident with death—a continuous succession of results traceable to the defendant's wrong, and the evidence in this case failed to establish the necessary facts

Physician's Prescription Druggist's Protection

The Court of Appeals of Kentucky says in the case of Commonwealth vs Byers, where a physician prescribed for a man's wife brandy creosote and syrup of hypophosphites that, when a prescription is presented to a druggist who is authorized to sell on the prescription of a regular practicing physician who possesses the statutory requisites, the druggist, so long as he acts in good faith, is entitled to the protection of the law so far as the sale is concerned The prescription itself is all that he may look to or is required to look to He can not know whether the person for whom it is prescribed is sick or not, and if it should be developed in any case that the person holding the prescription or for whom it is given is not in fact sick then it becomes a question between the commonwealth and the physician issuing the prescription, and not between the commonwealth and the druggist who, in good faith, fills it

Besides, in a case like this, where the prescription is for the wife and is issued in the name of her husband, in the absence of any charge of fraud or wrongdoing, the court is of opinion that the law is not violated The purpose of the statute in requiring the prescription to state the name of the person to whom it is prescribed was to prevent druggists physicians, or others from evading the law, and issuing, filling or using prescriptions issued in blank, but it was certainly not intended that the person for whom the prescription was filled should necessarily be the patient This would, indeed be a harsh rule, for if one were sick enough to require the services of a physician, he or she might and frequently would be unable to go personally and have the prescription filled

In order to comply strictly with the requirements of the statute, the prescription in this case should have stated that it was for the man's wife whereas it stated that it was for him If there was any violation of the law, it was on the part of the physician in failing to state accurately the person for whom the liquor was prescribed However, the court is of opinion that the record showed that he was aiming to comply with the requirements of the law

Contract "to Nurse" a Person Not One to Practice Medicine

The Supreme Court of Illinois says, in the case of Oswald vs Nehls, that the duties assumed by the plaintiff under a contract set forth were 'to personally care for and nurse the said Ludwig J Nehls for and during the term of his natural life" It was argued that this contract was unenforceable because its performance required the plaintiff to practice medicine without being legally licensed so to do But the court does not agree with that view The agreement "to nurse" an adult person necessarily conveys the idea that the object of the care is sick or is an invalid It means more than mere watchfulness It means such care of the person and attention to the surroundings as will conduce to the comfort and hasten the recovery of the patient The practice of medicine, within the meaning of the Illinois statute regulating the practice of medicine and as generally understood, necessarily requires a knowledge of all those things a professional nurse is supposed to know It embraces much more It includes the application of knowledge of medicine of disease, and the loss of health People vs Blue Mountain Joe 129 Ill 370 Neither the terms of the contract nor the acts done in performance thereof by the plaintiff were illegal under the Illinois statute relating to the practice of medicine

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

July 25

1 Complicating Exophthalmic Goiter C G Stockton and A. E Woehnert, Buffalo
2 *Supposed Evils of Expert Testimony F X Dercum, Philadelphia
3 *Expert Testimony and the Alienist W A White, Washington D C
4 *Intrapelvic versus Abdominal Treatment of Mechanical Dystocia E H Grandin, New York
5 Dog Days The Physician's Vacation J Knott, Dublin
6 *Conjugal Diabetes A C Croftan, Chicago
7 *The Doctor as a Public Educator F Van Fleet, New York.

2. **Expert Testimony.**—Dercum says that much misunderstanding exists, especially on the part of physicians, as to the nature of expert testimony and as to its proper rôle and functions; that much has been said from time to time of the evils, so called, of expert testimony, and that every now and then correctives for these supposed evils are proposed, which he believes to be very unwise He refers particularly to a paper on psychiatric expert evidence in criminal proceedings (*New York Medical Journal*, March 7, 1908; abstracted in THE JOURNAL, March 21, p 991) Expert evidence differs from ordinary evidence in that it is essentially opinion evidence Dercum discusses the qualifications necessary to constitute an expert and opposes any attempt to limit the expert to an official class As to the so called evils of expert testimony, observations in the courts extending over a quarter of a century have convinced him that these evils are greatly exaggerated, and are due not to methods of legal procedure, but to the expert himself The bias of the expert is the first evil Instead of regarding himself as a witness he often assumes the rôle of counsel Before the trial he should form an unbiased opinion on the facts and present it to the counsel employing him, without regard to the contention of that counsel, and if the opinion is favorable it should also present all the facts, favorable or unfavorable, with equal force After forming his opinion, the conscientious expert should rearray the facts in his mind and see how they would favor a conclusion opposite to that which he has reached Other difficulties are due to the ignorance of the witness as to the nature of evidence, both lay and expert, to a faulty method of presenting the testimony, and to the use of technical terms Dercum discusses the hypothetical questions and the method and demeanor of the expert As to the question of opposing experts, it is not so much the members of the bar or the courts, but physicians themselves, who keep alive this reproach, as Dercum believes from an entire misconception of the facts Differences of opinion regarding actual findings are usually slight; it is in their interpretation that the greatest differences are found, and here they may be perfectly legitimate Most trials as regards insanity deal really with borderland cases, and in this class very many cases occur which are not litigation cases, nevertheless competent opinions differ concerning them In every department of knowledge similar differences of opinion are developed For instance, in a large percentage of cases in the Supreme Court of the United States, dissenting opinions, often in exact opposition, are handed down Are we, then, to speak of the evils of the Supreme Court? No plan will do away with differences of expert opinion. Dercum considers the suggéstion of the appointment of experts by the courts as unwise and impracticable

3 **Expert Testimony.**—White considers that the attitude of the public against expert testimony has been created and fostered by newspaper reports of trials The reason why experts can be found for either side is because practically every case that goes into court has two sides This is especially the case in will contests White discusses the usual legal test of insanity, the "right and wrong test," or test of knowledge, which he considers should be erased from the statutes The idea of a jury passing on a highly technical matter, such as insanity, is ridiculous The fundamental defect of the criminal law is that it so often deals with the crime and not with the criminal The real question at issue is not whether the offender stole $34 or $36 (and is, therefore, to be indicted for petit or grand larceny, respectively), but what manner of man is he? To answer this, it is necessary to make an analysis of the individual and the causes leading up to the offence. White approves of the method practiced in St Louis, of committing the accused criminal insane for observation at the state hospital for insane.

4. Abstracted in THE JOURNAL, July 4, 1908, p. 70.

6. **Conjugal Diabetes.**—Croftan discusses the statistics of conjugal diabetes, and insists that it is clear in most cases that one is dealing with more than a coincidence. He insists that whenever diabetes is found in a patient it should be looked for in the mate.

7. **The Doctor as Educator.**—Van Fleet discusses the medical practice laws, which he considers defective, in that they fail to protect the public against irregular practitioners and nostrum sellers, and at the same time are raising the standard of qualification so high that only persons of more or less independent means can wisely enter on the practice of medicine. The physical defects of school children, the prevention of tuberculosis, animal experimentation, etc., are also considered as matters in which the educative influence of the physician should be exercised.

Boston Medical and Surgical Journal.

July 23.

8 *Diagnostic and Therapeutic Use of Tuberculin L Brown, Saranac Lake, N. Y.
9 Permanent Stenosis of Common Duct from Inflammation or Duodenal Ulcer H Packard Boston
10 *Melano Sarcoma of the Orbit G McConnell and R. Burman, St Louis

8. **Tuberculin.**—Brown discusses the diagnostic use of tuberculin by the cutaneous, the conjunctival and the subcutaneous methods: also the contraindications to its diagnostic use. He then considers its therapeutic use, discusses the varieties of tuberculin, the methods of administration, dosage, and interval, and says that the present status of tuberculin therapy may be expressed in a few words as follows: Tuberculin, when properly given, does no harm, may produce no apparent immediate results, but may markedly benefit an individual patient who can follow at the same time the hygienic-dietetic treatment while in a health resort or at home and at rest. It may even prove of benefit to those who must continue at work Small doses and careful increases are most important, and by following these very closely some patients, even in advanced stages, reap great benefit. The immediate and ultimate results of treatment are that the patients are often improved, fewer relapses occur, and more patients lose the tubercle bacilli in their sputum.

10 **Melano-Sarcoma of Orbit.**—McConnell and Burman report a case of melano-sarcoma of the orbit, showing the unusual interval of nearly eight years between the first indication of trouble and the death of the patient. A point of pathologic interest was the great enlargement of the liver, due mainly to extreme hyperplasia of bile ducts There were no secondary growths.

Medical Record, New York.

July 25

11 History of Medicine in Province of Quebec, from 1535 to 1838 H S Birkett Montreal
12 *Pathogenesis of Pernicious Malaria W H Deaderick, Marianna, Ark
13 *Improved Treatment of Gonorrheal Arthritis E C Titus, New York
14 Unusual Cardiac Murmurs R Ellis New York
15 *Magnesium Sulphate in Tetanus W H Powers, Ocala, Fla

12 **Pernicious Malaria.**—Deaderick describes the evolution of our modern knowledge concerning the pathogenesis of pernicious malaria, and regards the following as the most important pathogenic factors exciting perniciousness and as being approximately of relatively equal importance: 1. An excessive number of parasites 2 Localization of parasites 3. Toxins 4. Individual predisposition and external etiologic influences He discusses each of these causes in detail

13 **Electrotherapy of Gonorrheal Arthritis**—Titus has been led by experiments extending over a series of years to the conviction that static currents exercise a potent curative influence on infective conditions, both local and general- In this

paper he deals with their effect on gonorrheal arthritis He has for some years been treating non gonorrheal prostatitis and seminal vesiculitis with the static wave current, by means of a metal electrode placed against the gland and vesicles through the rectum Its action he believes explainable as follows The oscillations of the static wave current, surging through the tissues at each discharge between the positive and negative poles (the patient is connected to the positive pole, while the negative side is grounded) produce deep, painless, rhythmical, wave like contractions, or physiologic tissue gymnastics, even in the ultimate protoplasmic cell thereby relieving the local stasis, inducing a circulatory drainage and restoration to normal metabolism

From this experience he was led to treat gonorrheal arthritis and seminal vesiculitis by means of an insulated vacuum electrode He found that cases hitherto refractory were cured, which result he explains as follows The actinic action of the vacuum tube discharge exerts a direct bactericidal effect on deep seated gonococci In addition, there are generated on the surface of the vacuum electrode, when in contact with parts or tissues of the body, nascent nitrous acid and ozone, as a result of the dissolution of the air between the surface of the tube and the lining membrane of the part or cavity, these, together with the actinic discharge of the vacuum tube, are carried into the tissues to a depth of from 2 to 6 mm. by the action of the high potential currents

He thus came to try it in the treatment of systemic gonorrheal infections after the following method The rectum having been emptied and the patient being in the Sims position on an insulated platform, the vacuum tube is passed into the rectum and pressed on the prostate gland or seminal vesicles, and connected with the negative pole of the static machine It is essential to begin with a small spark gap Treatment should never be painful, each treatment should last about twenty minutes be repeated daily for two weeks, then on alternate days, until the secretions from the prostate and vesicles are free from gonococci, as shown by stripping the glands When the secretions no longer contain gonococci, indirect static sparks can be daily applied to the joints

15 **Magnesium Sulphate in Tetanus**—Powers reports a case of tetanus, following a gun shot wound, successfully treated by intraspinal injections of a 25 per cent solution of sterilized magnesium sulphate This process paralyzes the muscles and prevents fatal exhaustion before antitoxin has time to act

Virginia Medical Semi-Monthly, Richmond

June 26

16 Psychotherapy P C Hunt Washington D C
17 Nature and Treatment of Fever W S Gordon Richmond
18 Value of Morphin Derivatives in Ocular Therapeutics W Fox, Philadelphia
19 Intracranial Complications of Otitic and Nasal Origin C M Miller, Richmond
20 Puerperal Eclampsia J F Walsh Washington, D C
21 Treatment of Placenta Previa M D Delaney Alexandria
22 Treatment of Inguinal Adenitis R T McNair Emporia

July 10

23 Technic of Operation for Neoplasms of the Neck J S Horsley Richmond
24 *Cerebral Concussion L W Glazebrook Washington, D C
25 Uses of the Stomach M O Burke Richmond
26 Recent Developments in the Study of Cancer H B Stone Charlottesville
27 Vesical Calculi R L Raiford Conley
28 Modern Treatment of Pulmonary Hemorrhage M Junger, Ironville
29 The Future of Medicine F L Hergert Brooklyn
30 Avulsion of Ankle Joint F P Tompkins Roanoke
31 Principles of Surgery S McGuire Richmond

24 **Brain Concussion**—Glazebrook discusses the views held by different authorities as to the pathology of concussion of the brain" He asks the question Is it possible for a person to receive a direct or indirect injury to the head sufficient to cause death, without presenting at the autopsy table evidence of fracture, edema, hemorrhage contusion or laceration or is it possible for a person to die from brain shock pure and simple, as from other forms of so called shock?" Since 1900 he has performed 500 autopsies in 161 deaths being the result of injuries to the head He answers Yes to both questions and records six cases in which death occurred from certain head injury in which no fracture hemorrhage edema contusion or laceration could be detected

California State Journal of Medicine, San Francisco

June

32 Anatomy of Thyroid and Parathyroid A F Gillihan, Berkeley
33 *Medical Treatment of Goiter D Fulton Los Angeles
34 *Surgical Treatment of Goiter W I Terry, San Francisco
35 Relation of the Thyroid to Mental Disease J W Robertson Livermore
36 *Early Symptoms of Dementia Precox C L Allen Los Angeles
37 Fungus Coccidioides H A L Ryfkogel, San Francisco
38 Smallpox C H Waller San Jose
39 Experiences of a Health Officer H J B Wright San Jose
40 Common Gastric Disorders Among School Children A W Perry San Francisco
41 Progress of Preventive Medicine E L Blackmun Stockton
42 Appendicitis Diagnosis S Hyman, San Francisco

33 **Medical Treatment of Goiter**—Fulton points to the multiplicity of theories, many of the most contradictory nature, on which as many opposing methods of treatment have been based The percentage of cures is smaller by medical than by surgical treatment, but medical treatment is not, therefore, useless In a large majority of cases, Graves' disease tends toward recovery, and spontaneous cure often takes place Medical treatment will relieve the most distressing symptoms at a time when these contraindicate operation, or pending natural improvement The principal measures are rest, balneotherapy and dieting These, with the symptomatic use of drugs, for there is no specific, will often cure incipient cases and relieve the most advanced cases of aggravating symptoms Electrotherapy probably belongs to suggestive therapeutics Roentgen rays have not fulfilled expectations, neither has serum treatment as regards end results, though it may be hoped that the serum of Rogers and Beebe may live up to its promise His conclusion, however, is that, until sufficient clinical proof of the value of this treatment is submitted, it is the duty of the internist to give his patients who are not improving under medical treatment the advantage of the truly brilliant curative results obtained by surgery Both surgeon and internist advise medicinal treatment, this failing, surgery is indicated

34 **Surgical Treatment of Goiter**—Terry says that surgical treatment of a goiter may be demanded first on account of its size, second, because of pressure symptoms affecting the trachea, larynx, esophagus or other important structures in the neck or upper portion of the thorax, third, when the growth is rapid, giving rise to the suspicion of malignancy, fourth, because of infection of the goiter, fifth, when the Basedow symptoms are present He discusses these indications in detail Operative treatment of exophthalmic goiter is indicated when after rational internal medication for a period not longer than three months the patient is not materially improved or cured

Terry discusses the various measures—excision, enucleation, resection, exenteration of goiters, ligation of thyroid arteries, division of the isthmus, and resection of the sympathetic ganglia—that have been recommended He points out the dangers—operative myxedema, removal of the parathyroids, injury to the recurrent laryngeal, and the presence of a so called goiter heart, as a contraindication to thyroidectomy He discusses the question of anesthesia

36 **Dementia Præcox**—Allen concludes his paper with the following statement The symptoms of dementia præcox are fairly characteristic and should be sought for in any young person who shows unaccountable change in habits and disposition In this connection the scientific study of the mental and physical characteristics of the pupils in our schools and colleges should put at our disposal valuable information, and this work should command the support of all physicians

University of Pennsylvania Medical Bulletin, Philadelphia

June

43 *Gynecologic Instruction J G Clark Philadelphia.
44 The Omentum Its Anatomy Histology and Physiology in Health and Disease C C Norris Philadelphia
45 Chorioepithelioma of the Uterus B M Anspach, Philadelphia
46 *Office Gynecology W B Small Philadelphia
47 The Gould Stitch J G Clark Philadelphia
48 Buried Catgut and Intercutaneous Suture in Plastic Operations on Perineum B M Anspach Philadelphia
49 Nine Cases of Dysmenorrhea C C Norris Philadelphia
50 *Surgical Phases of Enteroptosis J G Clark, Philadelphia

43 **Gynecologic Instruction**—Clark describes a method of instruction designed to obviate the difficulties arising from

the dread entertained by patients of being used as clinical material. Though not complete, it has proved so far satisfactory. Its essential feature is the appointment of six senior students as assistants, one being acting family physician, and five consultant assistants. He describes the working of the system and reproduces the report of a case taken under this method by a senior student as acting family physician. The article is illustrated with halftones of a series of clay models made during an operation by a student or instructor to illustrate methods of repair of cervical and perineal injuries.

46. **Office Gynecology.**—Small considers that the general practitioner will not give office gynecology the time or attention it deserves, while the gynecologist with difficulty restrains himself from at once performing a brilliant operation. Nervous influences are often overlooked. A more frequent routine of local applications would greatly reduce the number of operations. In recent cases of displacement he endorses the use of the pessary. He describes the method of dealing with many conditions proper for office gynecology.

50. Published in *Surgery, Gynecology and Obstetrics*, April, 1908, and abstracted in The Journal, May 23, 1908, p. 1755.

American Journal of Obstetrics, New York.

June.

51 Pyelitis in Pregnancy. H. N Vineberg, New York.
52 *Placental Transmission of Bacillus Typhosus. B. A. Cohoe, Baltimore.
53 *Indications for Cesarean Section. J. Halpenny, Winnipeg
54 Extrauterine Pregnancy at Term. W. R. Nicholson, Philadelphia.
55 Diagnosis of Extrauterine Pregnancy. G. R. Holden, Jacksonville, Fla.
56 Therapy in Convalescence from Abdominal Operations. E. H. Grandin, New York.
57 *Neglect of Plastic Surgery About the Pelvic Outlet. W. D. Ward, Rochester, N. Y.
58 Chondrodystrophia Fœtalis. G. C. Walss, Chicago.

†*Department of Pediatrics.*

59 **Pyloric Stenosis in Infancy.* J. F. Moran, Washington, D. C.
60 *Hereditary Syphilis. J. S. Wall, Washington, D. C.
61 *School-Age. G. D. Scott, New York.
62 Diagnosis of Common Skin Diseases of Childhood. W. B. Brown, New York.
63 Pertussis. H. B. Sheffield, New York.
64 *New Treatment of Pertussis. A. M. Fendler, New York.

†Attention is called to this new department of the *American Journal of Obstetrics*, which, like the original portion of that journal, consists of original contributions and abstracts. It also contains the Transactions of the Section on Pediatrics of the New York Academy of Medicine.

52. **Placental Transmission of Bacillus Typhosus.**—Cohoe reports a case in which, abortion occurring at about fifteen weeks during typhoid fever, the fetus was sent to the bacteriologic laboratory with the membranes intact. This made it possible to take cultures from the amniotic fluid and fetal viscera without contamination. The *Bacillus typhosus* was grown therefrom in pure culture. "It is now generally conceded," says the author, "that an infection of the fetus takes place only through the medium of an injured placenta, and that such injury may exist prior to the disease, or may result during the course of the disease from the action of the toxins in the circulating blood of the mother."

53. **Cesarean Section and Sterilization.**—Halpenny reports a case of a primipara, aged 30, with a conjugate vera 6.75 centimeters, in which the question arose as to whether it would be desirable to sterilize at the time of Cesarean section. He submitted the question as a general proposition to thirteen well-known surgeons, with the result that five answered affirmatively, in four cases, however, a reservation being made in favor of the patient's choice; seven in the negative, five, however, leaving the final determination with the patient, and two considering it a question entirely for the mother. Halpenny sums up his paper as follows: Cesarean section should be done (a) in all cases of pelvic contraction in which the conjugata vera is below 5.5 centimeters; (b) in cases in which the conjugata vera is between 7 or 7.5 centimeters and 5.5 centimeters, and the patient has not been infected, is not unduly reduced, and the child is alive; (c) in cancer of the cervix where dilatation will not take place.

Craniotomy or embryotomy should be done in cases of pelvic contraction in which the conjugata vera is not below 5.5 centimeters and the child is not alive. (d) In cases of pelvic tumors which can not be displaced from the pelvis under an anesthetic. (e) In all cases of sudden death of the mother. (f) Possibly in central implantation, placenta prævia. (g) Possibly in dystocia due to ventrofixation or ventro-suspension. Vaginal Cesarean section should probably be done in cases of severe eclampsia with very rigid os. Pubiotomy or symphyseotomy should be done if the conjunctiva vera is not less than 7 centimeters, if the fetus is still alive.

57. **Plastic Surgery of Pelvic Outlet.**—Ward remarks that all over the country everyone seems interested in abdominal surgery, but he insists that not enough attention is paid to injuries to the pelvic floor and cervix. There is a tendency to think danger over when the head is delivered, but, in fact, the shoulders may tear a floor. If a tear occurs, it should be sutured at once. The diagnosis of a laceration of the pelvic floor is not difficult. "If you prick the vulva of an uninjured woman with a needle, a reflex muscular action is excited; the anus is drawn upward and forward, the perineum shortened, and the mouth of the vagina more tightly closed by the action of the perineal muscles. If these muscles are injured, this reflex action will be absent; the woman will simply draw away when pricked." He urges that there is a field for some of our great men in plastic surgery.

59. **Pyloric Stenosis in Infancy.**—Moran concludes as follows: 1. Pyloric stenosis in infancy is due to the following conditions, either of which may exist alone, but are frequently associated: (a) hyperplasia of the tissues of the pylorus, particularly of the muscular coat; (b) simple spasm of the pylorus. 2. The evidence would seem to indicate that the hyperplasia is congenital, and that the pyloric spasm originates after birth. 3. Cases in which the symptom-complex does not develop until some time after birth are probably instances of partial stenosis with secondary spasm or pyloric spasm alone. 4. The pyloric spasm may be due to a neurosis, erosion of the mucous membrane of the stomach or pylorus, or acute or subacute gastritis. 5. Since it is tenable that either hyperplastic or spastic stenosis may be present alone, or that the two may coexist, both medical and surgical treatment are of value, but the sphere of each must be determined by the exigencies of the individaul case.

60. **Hereditary Syphilis.**—Wall discusses the question whether a healthy mother can give birth to a syphilitic child, and concludes in the negative, even though the mother appear healthy. As to treatment, he says that there is a rule which is now gaining an ever-increasing number of followers that a syphilitic should be treated one month out of every twelve—that is, after the usual two years' continued treatment. In the syphilitic child this rule finds special application, nor is it difficult to secure the cooperation of the mother in such persistent treatment if we elicit her aid through a rational explanation of the malign influence a lack of such care will exercise on her offspring.

61. **School Age.**—Scott describes the evolution of mentality in the infant, and discusses the nursery, the requirements of the kindergarten, etc. Six years of age he considers early enough to begin kindergarten; eight or nine, primary school.

64. **Pertussis.**—Fendler reports cases of pertussis in which fifteen drops of a 2 per cent. solution of antipyrin were injected into the larynx, "with phenomenal success," by means of a special pipette devised by Dr. Yankauer.

The Philippine Journal of Science, Manila.

April.

65 *Influence of Symbiosis on the Pathogenicity of Microorganisms. W. E. Musgrave.
66 *Cause of Frequent Reappearance of Cholera in the Philippines (with Statistics From 1902 to 1908.) V. G. Heiser.
67 Studies of Cholera. H. T. Marshall, Manila.
68 Biologic Study of the Water Supply of the Philippines, with Description of a New Pathogenic Organism. R. T. Edwards, Manila.
69 *Typhus Fever in Indo-China. A. Yersin and J. J. Vassal, Annam.
70 "Habu" Venom and its Serum Therapy. T. Kitajima, Tokyo, Japan.
71 Filtration Experiments with Virus of Cattle Plague. E. H. Ruediger.

65. **Symbiosis and Pathogenicity of Micro-organisms.**—Musgrave discusses bacterial symbiosis and animal and bacterial

symbiosis, and concludes, among other things, that the evidence is fairly conclusive in favor of a more or less definite symbiosis; for example, between amebas or other micro-organisms, whether they be found in a saprophytic existence or in pathologic lesions. The most promising field for laboratory research in the future, he says, will be the study of cause and effect, in the complex relations in which they occur in Nature, of the interrelation and interaction of micro-organisms with each other, and in their environment of complex symbiosis and the everchanging and multiple conditions found in hosts.

66. **Cholera in Manila.**—Heiser believes cholera to be endemic in the city of Manila, infesting the sewers, and causing the outbreaks outside as a result of communication. He recommends the thorough disinfection of the sewer system of Manila.

69. **Typhus Fever.**—Yersin and Vassal have been investigating in Indo-China an epidemic that appeared among Tongking coolies. Their conclusions are as follows: 1. Typhus fever has been observed in Annam in natives who recently arrived from Tongking. 2. It manifested itself in accordance with the classic description, except that the eruption was wanting. 3. The direct inoculation of blood from man to man has reproduced the disease after an incubation period of from 14 to 21 days. 4. Typhus fever seems to be a blood disease transmitted to man by bites of insects.

Journal of Nervous and Mental Disease, New York.

June.

72 *Mental State in Chorea. C. W. Burr, Philadelphia.
73 Symptom-Complex of Occlusion of Posterior Inferior Cerebellar Artery. W. G. Spiller, Philadelphia.

72. Abstracted in THE JOURNAL, June 20, 1908, p. 2104.

Illinois Medical Journal, Springfield.

June.

74 Opsonins and Vaccines in Tuberculosis. G. B. Webb, Colorado Springs, Colo.
75 Present Status of the Treatment of Tuberculosis in Illinois. J. W. Pettit, Ottawa, Ill.
76 General Aspects of Psychotherapy. J. Grinker, Chicago.
77 *Experimental Studies on Round Ulcer of Stomach and Duodenum. F. B. Turck.
78 Analysis and Modification of Mother's Milk. T. W. Gillespie, Peoria, Ill.
79 Prevention of Childbed Infections. H. LeSaulnier, Red Bud, Ill.
80 Should Druggists Manufacture and Dispense and Should Doctors Dispense? H. E. Irish, Chicago.
81 *Removal of Patella for Ununited Comminuted Fracture. C. C. Rogers, Chicago.
82 Three Cases of Cesarean Section. V. J. Baccus, Chicago.
83 *Exudative Diathesis. C. G. Grulee, Chicago.

77. Published in the *Journal of Medical Research*, February, 1908, and abstracted in THE JOURNAL, April 4, 1908, p. 1149.

81. **Removal of Patella.**—Rogers reports a case in which he removed the patella for ununited comminuted fracture, and describes the method adopted, which differs from Murphy's operation (*Surgery, Gynecology and Obstetrics*, March 1908; abstracted in THE JOURNAL, May 2, 1908, p. 1458) in that Rogers unites only the anterior half of the quadriceps extensor, instead of a lateral half, including some of the muscle to the patellar tendon. He does not suture the muscles together. The flap is made flat, smooth, and broad enough to cover the space left by the removal of the patella, instead of circular and narrower.

Rogers gives the following conclusions: 1. The patella is unessential for a flexible knee-joint. 2. The patella can be removed when ununited and perfect flexion and extension procured. 3. The patella should be removed when ununited or when repeated fracturing occurs. 4. When there is cartilaginous union and extension is lost, function can be restored by removing the patella and joining the quadriceps tendon to the patellar tendon. 5. By removing the patella the patient is confined to bed but a short time compared to the time required after strapping with adhesive or after wiring. Rogers acknowledges his indebtedness to Murphy for the idea.

83. **The Exudative Diathesis.**—Grulee discusses the condition described by Czerny of Breslau as the exudative diathesis. It may show its earliest manifestations in the first weeks of life, and usually continues until puberty or after. It occurs in the poorer classes, those who have removed from country to city, in both thin and frail and apparently robust babies. In spite of insufficient breast milk, the child does not obtain its initial weight until from two to four weeks after birth; it then gains rapidly, but never becomes normal. The geographical tongue is a certain indication if present. The skin manifestations include the "cradle cap," a yellowish-gray desquamation in the region of the large fontanel, milk eczema intertrigo, the respiratory symptoms—viz., repeatedly recurring asthma, which Czerny regards as acute bronchitis, its severity dependent on the nervous irritability of the child. The most important point is lymphatic enlargement of the pharynx, the result of repeated irritation due to recurrent infections of the mucous membrane, and not in themselves predisposing to infection. The cervical glands are enlarged. Pseudocroup may occur, especially in fat children. Treatment consists in regulation of diet, avoidance of infection, and training of the nervous system, avoidance of overfeeding, reduction of fat to a minimum (but the children stand carbohydrates well), largely vegetarian diet after the first year, open air life. Drugs are worse than useless. As regards the indiscriminate removal of tonsils and adenoids, Grulee considers it unnecessary; on which point he considers the opinion of the general practitioner, who sees the after-effects, as of more value than that of the specialist.

Southern California Practitioner, Los Angeles.

June.

84 *The Negro Consumptive. C. R. Grandy, Norfolk, Va.
85 *The Negro's Outlook for Health. B. Warner, New Orleans.
86 The Nation's Outlook for Health. W. Lindley, Los Angeles.
87 *Accouchement Forcé. E. M. Lazard, Los Angeles.
88 *Treatment of Gonorrhea in Females. A. J. Downs, Los Angeles.
89 Dermatitis Exfoliativa Neonatorum. U. G. Miller, Los Angeles.
90 Hydrotherapeutics. J. B. Cook, Los Angeles.
91 Ventral Hernia. H. G. Marxmiller, Los Angeles.

84. **The Negro Consumptive.**—Grandy asks: Is there a physical predisposition or lack of resistance to tuberculosis in the negro? Or is the predisposition rather a mental one, in that he is unable to rise up to meet the conditions which face him? Or are these adverse conditions forced on him on account of racial prejudice? He answers that, while there are physical peculiarities that act against the negro in his fight against tuberculosis, these factors are not so certain as poor housing, overcrowding, lack of ventilation, and insufficient nourishment, and back of these poverty, ignorance, thriftlessness, and vice. These, when applying to the greater part of a race, must be due either to a mental unfitness to combat the existing situation, or to its being forced into them through the prejudices of another race. He discusses this question and concludes that there is a mental predisposistion in the negro which renders the tuberculosis problem more difficult with him than with the white. He does not believe that the tremendous consumption mortality is due to racial prejudice. He urges a return to country life, the provision of day nurseries and kindergartens, and proper tenement-house laws.

85. **The Negro's Health.**—Warner quotes a leading negro educator for the statement that health conditions among the negroes show a decided improvement on what the conditions were for some period after the war. He himself, however, considers that the outlook for the future of the negro is ill, and, in addition to the factors mentioned by Grandy in the preceding abstract, he singles out the use of cocain, the prevalence of immorality which is not affected by education, and the results of miscegenation as factors.

87. **Accouchement Forcé.**—Lazard believes that in the presence of conditions necessitating rapid delivery, metallic dilatation, properly and carefully done, can with advantage replace both manual dilatation and deep surgical incision. It takes less time, absolute asepsis is easier, and it is not so exacting as regards technical skill, while it results in less trauma to the tissues. Placenta prævia cases are excepted.

88. **Gonorrhea in Females.**—Downs recommends filling the vagina with some antiseptic solution by means of a hand syringe such as is used on the male, the patient being on her back. The ureter is cocainized and the canal touched with the silver nitrate solution from 3 per cent. up. Skene's glands

are probed, if necessary, with silver nitrate. The labia are separated and the solution is absorbed with cotton. Ten per cent. silver nitrate on cotton is applied to the cervix externally and as far as the internal os. The glands of Bartholin must be treated like Skene's glands, if necessary. For infection of the uterus and tubes, rest in bed, large hot douches, heat to the lower abdomen; morphin for pain and saline cathartics to relieve pelvic congestion. An operation may be necessary.

St. Louis Medical Review.

June

92 *Bacteriologic Study of Acute Articular Rheumatism. J. W. Marchildon, St. Louis.
93 Physical Treatment of Constipation O. Juettner, Cincinnati.
94 Diphtheritic Paralysis. J. V. Shoemaker, Philadelphia.
95 Incorrect Phraseology in Medical Writings. A. L. Benedict, Buffalo.
96 Surgery of the Ureter. B. M. Ricketts, Cincinnati.

92. **Acute Articular Rheumatism.**—Marchildon discusses the bacteriology of this condition in general and the literature thereon, and gives the findings in five cases under his own observation. He concludes: My results are in accordance with those of many observers who believe that streptococci can not be isolated from the blood or joint fluid in cases that recover. More work and especially new methods may explain the failures of the present time.

Denver Medical Times.

June.

97 Treatment of Tabetic Ataxia by Frenkel Method E. W. Lazell, Denver
98 *Anatomy of the Hymen E. S. McKee, Cincinnati
99 Infection in the Right Upper Abdominal Quadrant. C. E. Tennant, Denver
100 Three Interesting Cases of Morphinism. J. H. McKay, Denver.
101 Recent Advances in Diagnosing, Treating and Combating Epidemic Meningitis. V. Thompson, Littleton, Colo.

98. Practically the same article appeared in the *Lancet-Clinic*, March 7, 1908, and in the *American Journal of Obstetrics*, March, 1908, and was abstracted in The Journal, March 28, 1908, p. 1077.

Utah Medical Journal, Denver.

June.

102 The Physician as a Teacher J. C. Cutler, Governor of Utah.
103 Instruction in Hygiene—a Necessity for Both Teachers and Scholars. J. W. Aird, Provo, Utah.

Pennsylvania Medical Journal, Athens.

June.

104 Progressive Pernicious Anemia. Diagnosis and Treatment. D. S. Funk, Harrisburg.
105 *Relation of Pernicious Anemia to Digestive Tract. J. D. Steele, Philadelphia.
106 Pernicious Anemia. A. S. Harshberger, Lewistown.
107 Diseases of Gall Bladder and Ducts. J. B. Deaver, Philadelphia.
108 *Imbecility and Crime and Legal Restraint of Imbeciles. C. W. Burr, Philadelphia.
109 Cosmetic Eye Surgery. W. C. Posey, Philadelphia.
110 *Referred Pain. W. L. Estes, South Bethlehem.
111 *Postoperative Femoral Phlebitis. G. W. Guthrie, Wilkes-Barre.
112 *Suppurative Parotitis Following Abdominal Operations. W. E. Parke, Philadelphia.
113 Total Extirpation of Diseased Tonsils; Importance and Method. G. M. Marshall, Philadelphia.
114 Injuries of the Eye by Foreign Bodies. W. M. Sweet, Philadelphia.
115 The Pennsylvania State Medical Society To-day. C. A. R. McClain, Mt. Union.

105. **Relation of Pernicious Anemia to the Digestive Tract.**—Steele discusses the confusion of progressive pernicious anemia proper with the severe anemias of gastric cancer, atrophy of the gastric and intestinal mucous membrane, parasitic anemias, the products of intestinal putrefaction, lowered gastric secretion, and infection having its origin in sepsis of the mouth, stomach and intestine. He concludes that the relations between disorders of the digestive tract and progressive pernicious anemia are complex and obscure. There is no proof that there is any causal relation between them. On the other hand, the connection that seems to exist between certain conditions in the digestive tract and severe anemia suggests that toxemia or other disturbances arising in the digestive tract may play a more important part in the etiology of progressive pernicious anemia than we think at present. The discrepancies and lapses in the chain of evidence as to the cause of the disease are best explained by the theory of individual predisposition.

108. **Imbecility and Crime.**—Burr says that imbeciles of criminal instincts are incorrigible, and they should be kept under the restraint of institutional life and not act as an incubus, not to say contamination, to the other children of the family. The removal from institutions of imbeciles of all types, criminal or not, should be made more difficult, and the imbecile with criminal instincts should receive no purely intellectual training and should be kept in an institution for life. The ideal method would be to segregate them on state farms, large in extent, far from great cities, and isolated from the world, *from the time that they begin to show vicious tendencies.*

110. Abstracted in The Journal, Nov. 2, 1907, p. 1549.

111 and 112. Abstracted in The Journal, Oct. 26, 1907, p. 1465.

Northwest Medicine, Seattle, Wash.

June.

116 Arteriosclerosis H. W. Howard, Prosser, Wash.
117 Ectopic Gestation. S. H. Johnson, Bellingham, Wash.
118 A Plea for More Care in the Early Diagnosis of Uterine Cancer. J. B. Eagleson, Seattle, Wash.
119 *Therapeutics. L. R. Markley, Bellingham, Wash.

119. Abstracted in The Journal, Oct. 12, 1907, p. 1304.

Journal of the Arkansas Medical Society, Little Rock.

May.

120 Use of Laboratory Methods by the General Practitioner. F. B. Young, Springdale.
121 Uncinariasis. A. G. McGill, Chidester, Ark.

Journal of Ophthalmology and Laryngology, Chicago.

June.

122 Migratory Ophthalmia in its Relation to Injuries of the Globe. H. W. Woodruff, Joliet, Ill.
123 Sub-Pterygial Cysts. H. Truc and A. Bonnet, Montpellier, France. Translated by B. F. Andrews, Chicago.
124 Treatment of Hemorrhage After Operations on the Nose, Naso-Pharynx and Tonsils. O. Wilkinson, Washington, D. C.
125 Case of Xanthoma, with Exhibition of Patient. J. E. Rhodes, Chicago.

West Virginia Medical Journal, Wheeling.

June.

126 Diabetes Considered from a Surgical Standpoint. N. Jacobson, Syracuse, N. Y.
127 *Mission of the Physician. G. D. Lind, New Richmond, Va.
128 Appendicitis—Its Clinical Aspect. W. W. Golden, Elkins
129 Sunshine and Bacteria F. Howell, Clarksburg.
130 *Protection from Malpractice Suits. H. G. Nicholson, Charleston.
131 Treatment of Diarrhea. R. H. Edmondson, Morgantown.

127 and 130. Abstracted in The Journal, June 6, 1908, p 1933 and 1934.

Yale Medical Journal, New Haven.

June.

132 Nature of Shock. C. H. Lemon, Milwaukee.
133 Surgical Treatment of Cystitis. E. L. Keyes, Jr., New York.
134 Tuberculosis Situation in Connecticut. D. R. Lyman, Wallingford, Conn.

Alabama Medical Journal, Birmingham.

June.

135 Psychotherapy. C. Lull, Birmingham.
136 Forms of Dystocia. J. E. Jenkins, Piper, Ala.
137 Pathology of the Summer Diarrheas of Infancy and Childhood. W. R. Ward, Birmingham.
138 Prophylaxis and Treatment of Diarrheas of Children in Summer, and Gastric Disturbances. H. Johnston, Birmingham.
139 Treatment of Chronic Prostatitis. C. W. Shropshire, Birmingham.

Montreal Medical Journal.

June.

140 The Treatment of Infective Diseases by Bacterial Vaccines. F. G. Bushnell, Brighton, Eng.
141 "Hepatic Toxemia."—"Fatal Acetonemia." E. J. Williams, Sherbrooke.
142 Ambroise Paré—Man and Surgeon. W. G. Turner.
143 Medicine in Canada. M. Charlton. (To be continued.)
144 Duodenal Ulcer: its Diagnosis and Surgical Treatment. A. E. Garrow, Montreal.

Bulletin Johns Hopkins Hospital, Baltimore.

June.

145 Avicenna and Arabian Medicine. J. A. Chatard, Baltimore.
146 The Kern-Plasma Relation Theory. W. T. Howard, Cleveland, Ohio.
147 Fritz Schaudinn. O. T. Schultz, Cleveland, Ohio.
148 Methods of the Henry Phipps Institute for Tuberculosis J. Walsh, Philadelphia.

Journal Cutaneous Diseases, New York.

June.

149 X-Ray Baths and Dermametropathism. H. Lawrence, Melbourne, Australia.
150 Experience with the White and Blue Light of the Quartz Lamp. E. Kromayer, Berlin.
151 Acquired Ichthyosis. J. P. Kanoky, Kansas City, Mo.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

The Lancet, London.

July 11.

1 *Inborn Errors of Metabolism. A. E. Garrod.
2 *Necessity for Appendicectomy After Perityphlitic Abscess. W. H. Battle
3 Sarcomatosis of Lymphatic Glands. W. K. Hunter.
4 The Premonitory Signs of Arteriosclerosis. A. S. Gubb.
5 *The State of the Autonomous Nervous System in Acute Surgical Conditions. A. J. Walton.
6 *Method of Facilitating Intralaryngeal Operations. C Horsford.
7 The Child in School Medical Examination. A. D. Edwards.
8 A Visit to Professor Wertheim's Clinic in Vienna. A. H. N. Lewers.

1. **Metabolism.**—In the second Croonian lecture Garrod discusses alkaptonuria at length, and states that the error of metabolism which is at the back of alkaptonuria is a failure to deal with the aromatic fractions of proteins in the ordinary way, and that both the proteins of the food and those of the tissues are implicated in the error. It is necessary to consider, therefore, what is known as to the ordinary way of dealing with these fractions. So far as the available evidence goes, it tends to show that there is only one degree of alkaptonuria, and that from a given quantity of a certain protein all subjects of the anomaly tend to form and to excrete the same amount of homogenetic acid, and it is probable that that quantity is a maximal one, seeing that Falta has shown that the output of homogentisic acid corresponds roughly to the estimated amounts of the aromatic fraction in the proteins broken down. Two explanations are possible of the fact that alkaptonurics excrete homogentisic acids, whereas normal persons do not: either the alkapton acid is a strictly abnormal product formed by a perverted metabolism of tyrosin and phenyl-alanin, in virtue of which these protein fractions experience a wholly different fate from that which overtakes them in the normal organism, or it is an intermediate product of normal metabolism, which is usually completely destroyed and does not come to excretion, but which in alkaptonuria escapes destruction. He discusses these explanations, and holds that at present the evidence in favor of the theory of it being an intermediate product far outweighs that which can be brought against it.

2. **Perityphlitic Abscess.**—Battle holds that the treatment of perityphlitic abscess is most safely carried out in two stages: First stage, evacuation of pus and drainage; second stage, removal of the appendix. He insists on this last because, he says, the statements of those who held that the appendix was obliterated by suppuration around it were erroneous; it is never obliterated, but remains the subject of gross disease, which in many instances(20 out of 70) gives rise to a return of symptoms within a short period after the closure of the abscess.

5. **The Autonomous Nervous System in Surgical Conditions.**—Walton, in an article begun in the *Lancet* of July 4, aims at decreasing the present high mortality existing in cases of acute surgical lesions necessitating immediate operations. Two main conditions are considered: 1, alterations in the vasomotor centers, with subsequent vascular changes; 2, changes in the local nervous system of the intestines after abdominal operations. In the first category he groups the conditions of shock and collapse, the active factor in both being lowered blood pressure. He discusses at length the recent work on the subject, paying special attention to the length of the operation, anesthetics, ether, chloroform, spinal anesthesia, and the loss of blood and other fluids. The treatment he divides into preventive and curative. He summarizes the treatment into perfecting the patient's general condition, the use of Crile's pneumatic suit, the prohibition of any form of stimulant, either previous to or during the course of any operation, the administration of 15 minims (1 c.c.) of B. P. hypodermic injection of ergot, which may be repeated after its effects begin to fail (probably in about twenty minutes), the injection of a 2 to 4 per cent solution of cocain into any large nerve before division, and avoidance of unnecessary exposure or handling of deep-seated organs, especially the abdominal viscera. The operating room should be warm, but not too hot. After the operation is completed a tight abdominal binder should be applied to contract the splanchnic area. When the patient has been returned to bed the following method may be carried out by routine, provided none of its steps has had to be undertaken during the course of the operation: The patient is immediately given a quarter of a grain of morphin, so that on recovering from the effects of the anesthetic the pain will not be appreciated by the controlling centers. At the same time the foot of the bed is raised about 1½ to 2 feet higher than the head end. Fifteen minims of ergot are now injected subcutaneously while the saline solution and suprarenal extract for continuous irrigation of the rectum are being prepared. As soon as possible this is commenced and allowed to run continuously at the rate of one pint an hour until either the fluid is rejected or five to six pints have been administered. If the case is one of septic peritonitis, the foot of the bed is lowered after two or three hours, and after a further two or three hours the head is raised. Under the second head he says that just as multiple afferent impulses to the centers governing the muscular apparatus of the vessels cause their exhaustion, with loss of tone to the vessels and consequent dilatation, so also multiple impulses from the intestines cause exhaustion of that apparatus governing the muscular movements of their walls, with consequent paralysis of these walls and apparent obstruction.

He discusses the physiology of peristalsis, and summarizes the treatment of the second class as follows: In cases of acute paralysis, due to some toxic condition present within the peritoneum, the intestines should be drained as freely as possible during the course of the operation undertaken for the relief of the local condition. In all other conditions no operation is called for, and, since the state of the intestines depends on the exhaustion of the centers, any form of stimulation is only likely to do harm. Immediately after operation, injection of 1/100th of a grain of eserin salicylate should be given, which may be continued four-hourly until six doses have been taken. If no action of the bowels occurs next day, a turpentine enema may be given. This line of treatment, of course, applies only to those cases in which it is considered beneficial to keep the bowels open. The effect of any severe operation on the autonomous nervous system consists of exhaustion of its centers, both central and local, and treatment must aim to rest them. Since in man exhaustion always occurs first in the nervous system, treatment of the symptoms should aim at stimulating the local organs to act alone until the centers are again able to undertake control.

6. **Intralaryngeal Operations.**—Horsford advocates passing a suture through the epiglottis, the ends of the suture being brought over the center of the tongue and gripped by a Spencer-Wells forceps, the weight of which pulls the epiglottis forward against the root of the tongue and usually quite out of the way. The patient holds the tongue in the ordinary manner. Horsford has had an instrument made for the purpose, and describes the method of its use in three cases.

British Medical Journal, London.

July 11.

9 *Etiology of Pulmonary Tuberculosis. Sir. W. Whitla.
10 *Congenital Stenosis of Pylorus in the Adult. W. Russell.
11 *Congenital Narrowness of the Pylorus, a Cause of Chronic Gastric Disease in Adult. A. E. Maylard.
12 Gastroenterostomy for Non-Malignant Disease. C. M. Moulin.
13 Tetany in the Adult. J. A. Gibb.
14 *Mucous Colitis and Its Relationship to Appendicitis and Pericolitis. A. Mantle.

9. **Tuberculosis.**—In the Cavendish lecture Whitla discusses, first, the relation between human and bovine tuberculosis, of which he considers the identity practically proved (commented on editorially in The Journal, August 1, p. 410), and, second, the portal of entrance of the tubercle bacillus, which, he says, the experiments of Calmette and Guérin have shifted from the site of the pulmonary alveoli to that of the intestinal epithelium. Whitla describes a series of experiments undertaken by Professor Symmers and himself to put

this conclusion to the test. In the first experiment China ink in suspension was injected into the large vein of the ear of a rabbit. On killing the rabbit an hour later the ink was found extensively deposited through the lungs. In the second, a guinea-pig was fed with a similar emulsion, a tube being used to avoid contamination by the nasal and oral cavities, and was then killed. The lungs were found to be engorged with carbon. In the third, similar injections into the peritoneal cavity in the adult guinea-pig produced a similar carbon infiltration of the lungs, although the abdominal lymphatic glands were free from pigment. The particles, therefore, must have passed through the mesenteric glands, becoming arrested in the pulmonary capillaries. Vansteenberghe and Grysez, however, in similar experiments with young guinea-pigs, found that the particles "entered the lymph paths, as in the case of the adult animals, but were at once filtered out by the mesenteric glands, so that the lungs remained free from pigment, while the glands were deeply infiltrated. Vansteenberghe and Grysez also submitted rabbits and guinea-pigs to the inhalation of carbon particles by confining them in glass boxes containing a burning turpentine lamp. But while, on killing the animals, the upper air passages—and, when the experiment was of long duration, even a few of the pulmonary alveoli—were found laden with pigment, in no case was carbon found in the parenchyma of the lung. An important experiment consisted in leaving the digestive tract open, doing a low tracheotomy, and blocking up one lung completely with cotton wool. The animals were then exposed to prolonged inhalation of carbon, as in the foregoing experiment. On killing them and examining the lungs, while the free lung showed carbon deposits in the bronchi and external portions of the alveoli, as well as in the parenchyma, the blocked lung showed only intraparenchymatous deposits, the bronchi and alveoli being free from pigment, thus indicating the route of parenchymatous infiltration to be through the blood stream. Guérin and Breton injected a fine emulsion of living bacilli through the esophageal tube into the stomachs of guinea-pigs and produced extensive tuberculous deposit in the mesenteric glands, lungs, and other viscera. When the animals lived for thirty days the lungs were always tuberculous; when for sixty days the deep cervical glands also. Examination of guinea pigs thus treated and killed within ten days showed the entire lymphatic system already affected. In view of the facts that the great majority of the cases in which bovine bacilli have been found in the human have occurred in children, and that it is in abdominal tuberculosis that bovine bacilli have generally been found, the obvious conclusion is that the bovine bacilli gained an entrance to the stomach through the milk of tuberculous cows. Symmers and Whitla, in another experiment, combined two methods by rubbing up large doses of a living culture of bovine bacilli with powdered China ink, olive oil and water, to the consistence of thin cream. This was introduced through a catheter into the stomachs of adult guinea-pigs, which were killed at periods from four to twenty-four hours later, and the lungs and viscera examined. In six out of eight cases a smear from different parts of the lungs showed tubercle bacilli, though always sparse, lying among abundant carbon particles. The mesenteric and ileocolic lymphatic glands contained numerous tubercle bacilli with carbon particles, obviously on their way to the lungs. The histologic differences between the mesenteric glands of the young and the adult animal readily explain these results and those of Vansteenberghe and Grysez.

Whitla finally relates a series of outbreaks of cervical adenitis that occurred among school children in an isolated rural community, and were traced to the milk supply. Each series contained also cases of other forms of tuberculosis, including phthisis. Finally, he lays stress on the important part played by lowered *vital resistance*, and concludes that probably at no distant date the contention of Calmette will be accepted, that in the immense majority of cases pulmonary tuberculosis is not contracted by inhalation, but, as taught by von Behring, the germs enter through the intestinal tract. "Further research," he adds, "may explain how in China, where the consumption of the milk of bovines is practically nil, tuberculosis is everywhere present among the natives"

10. **Congenital Stenosis of Pylorus.**—Russell first summarizes our knowledge as to pyloric stenosis in general, discussing the causes, the relation to it of pyloric spasm, and the effects of pyloric stenosis. He approaches the consideration of congenital stenosis as an additional cause of pyloric obstruction in the adult by discussing it from the historical side. He refers to the recognition of hypertrophic pyloric stenosis in infants as a pathologic fact and a clinical entity, and concludes that there are degrees of stenosis and that a pyloric stenosis is not incompatible with infant life; that, in spite of its presence, life may be continued into childhood, and even onward. It seems inexplicable to him that there is no recognition in infancy of what Maier calls simple stenosis, and the fact that this condition is recorded on the operating table in children as young as 6 indicates a clinical hiatus that should not be difficult to fill. He discusses the literature of the present medical and surgical position, and holds that the occurrence of congenital stenosis in the adult must be accepted as an established fact. He reports three cases, and discusses the diagnosis, treatment and clinical pathology.

11. **Idem.**—Mayland adds to his cases published in the *British Medical Journal*, volume i, 1904, page 417, twelve additional cases substantiating the views formerly advanced by him, and concludes that: 1. There exists an abnormal condition of the pyloric aperture, of probably congenital origin, which consists in an undue narrowing of the orifice, varying anything between 2 or 12 mm. 2. The condition is more frequently met with in women than in men, and that the age at which the symptoms first appear depends on the narrowness of the aperture and the general physical or constitutional condition of the patient. 3. The narrowness leads to a more or less chronic condition of indigestion, manifested in various forms, and often mistaken for chronic ulceration of chronic gastric catarrh; that in the early stages relief is afforded by careful and strict attention to diet, but that any attempt to return to normal feeding causes a recrudescence of indigestion The attacks of gastric discomfort are at first separated by considerable intervals, but these lessen in length as time goes on. 4. When the patient is advanced in life and shows marked general debility, operation will prove of doubtful value. 5 Barring such considerations as those mentioned in paragraph 3, pyloroplasty or Finney's operation—preferably the former—should be practiced.

14. **Mucous Colitis.**—Mantle discusses mucous colitis and refers especially to the arthritic symptoms, to mucous colitis simulating appendicitis, appendicitis following mucous colitis, and also as a cause of it, and to mucous colitis as a cause of pericolitis. He describes the irrigation method of treatment in use for several years in France, and at Harrogate, in England, and states that the treatment has been most successful, as well as educational to the patient.

Medical Press and Circular, London.

July 8

15 Abdominal Injuries. W. H. Clayton Greene.
16 *The Etiology of Pulmonary Tuberculosis Sir W. Whitla.
17 The Austrian Tyrol as a Health Resort. D. Walsh.
18 Intermittent Claudication (Angina Cruris). B. Bramwell.

16. See abstract No. 9.

Clinical Journal, London.

July 8.

19 Acute Tuberculous Peritonitis in Adults W. P. Herringham
20 General Suppurative Peritonitis L McGavin.

British Journal of Children's Diseases, London.

July 1908

21 Cases of Intussusception H S Clogg
22 *Erythrodermia Desquamativa (Universal Dermatitis of Children at the Breast). C. Leiner
23 Acute Affections of the Lungs in Children. T. Fisher.
24 Unusual Case of Acute Leucocytic Pleuropneumonia, with Extensive Fibrinous Plugs Visible to the Naked Eye in Enlarged Lymphatics G. Carpenter.

22. **Erythrodermia Desquamativa.**—Leiner draws attention to a skin disease spreading all over the body, presenting a special type, of which he has observed 43 cases at the Carolinen Children's Hospital, Vienna, of which 41 were breast

nourished and 2 bottle fed. Of these, 28 were cured, 15 died. The disease consists of a slight inflammation of the whole cutis, a desquamation of the epidermis and a seborrhea of the scalp. It is a real inflammation of the skin and rarely attacks others than infants. The etiology is not clear, but Leiner suggests that it is probably an autotoxic erythema, occurring in connection with intestinal troubles. It must be carefully distinguished from the dermatitis exfoliativa of Ritter.

Annals of Tropical Medicine and Parasitology, Liverpool.

June 9.

25 Reports of the "Sleeping Sickness" Expedition to the Zambesi for the Years 1907-1908. A. Kinghorn and R. E. Montgomery.
26 Incidence and Prophylaxis of Human Trypanosomiasis in Northeastern Rhodesia. A. Kinghorn and R. E. Montgomery.
27 Trypanosomiasis of Domestic Stock in Northwestern Rhodesia. R. E. Montgomery and A. Kinghorn.
28 Work of the Greek Antimalaria League During the Year 1907. M. Hadjimichalis and J. P. Cardamatis.

Dublin Journal of Medical Science.

July.

29 Generalized Vaccinia and its Pathology. R. S. Oldham.
30 Calmette's Ocular Reaction to Tuberculin. G. B. M'Hutchison.
31 Pathology and Treatment of Epulis. C. G. Cumston, Boston.

Journal of Laryngology, Rhinology and Otology, London.

July.

32 Clinical Pathology of Aural Discharges. W. Wingrave.
33 Noise Apparatus for Detection of Unilateral Deafness. R. Bárány.
34 Fatal Case of Cavernous Sinus Thrombosis Following Chronic Purulent Otitis. H. Hanna.
35 Laryngostomy and Tracheo-Laryngostomy for Stenosis of Larynx or Trachea, Especially Cicatricial. Sargnon and Barlatier.

Bulletin de l'Académie de Médecine, Paris.

June 30, LXXII, No. 26, pp. 745-799.

36 *Local Anesthesia. (L'Anesthésie locale et les nouveaux anesthésiques locaux.) P. Reclus.
37 Preventive Antitoxin Treatment of Tetanus. L. Labbé.
38 *Precautions before Descending into Wells, etc. (Précautions à prendre avant de laisser pénétrer des ouvriers dans des fosses ou des puits.) N. Gréhant.
39 *Aneurism of Aorta compressing the Heart and Vessels at its Base. E. Boinet.

36. **Local Anesthesia.**—Reclus is an ardent advocate of local rather than general or spinal anesthesia, and states that with it he has performed ten thousand operations without a fatality—with scarcely any disturbance in the physiologic balance. He prefers a mixture of 25 per cent. cocain and 75 per cent. stovain for the local anesthesia, and recently amputated an arm with this technic without any complaints on the part of the patient. Local anesthesia, he declares, should be the rule for operations on the fingers and toes, anal and external genital regions, for gastrostomy, herniotomy and kelotomy, and whenever the condition of heart, kidneys or lungs contraindicates general anesthesia Analysis of the fatalities from spinal anesthesia on record shows that the operations might have been done under local anesthesia just as well. The reason the latter is unpopular is, he believes, because the technic of local anesthesia differs so widely in the individual cases, with the region, the tissues and the condition of tissues, so that each operation requires, as it were, a special technic. Another reason is that the surgeon must attend to the local anesthesia himself, instead of turning it over to an assistant, and that he is inclined to shirk this task.

38. **Precautions Before Descending Into Wells, Pits, Etc.**—Gréhant reiterates his former assertions in regard to the necessity for letting down some small animal in a cage before allowing workmen to descend into a suspicious pit or well. If the animal is breathing normally when drawn up again after half an hour, the workmen can descend without fear. If not, the fire department should be called on to apply their ventilating apparatus which soon renovates the air. He relates a number of experiments showing the effect on guinea-pigs of various dilutions of gases.

39. **Aneurisms of the Aorta Compressing the Heart and Vessels of the Base.**—Boinet gives an illustrated description of two cases of multiple aneurisms in the intrapericardial part of the aorta, emphasizing the contrast between the lack of sufficient physical signs and the predominance of functional disturbances from compression of the vessels and cavities of the base of the heart.

Presse Médicale, Paris.

July 1, XVI, No. 53, pp. 417-424.

40 *Necessity for Early Electric Treatment in Reflex Atrophies. A. Zimmern.
41 *Salt and the Gastric Secretion. A. Martinet.

July 4, No. 54, pp. 425-432.

42 *Revised Conceptions of Hysteria. (Revision de l'hystérie à la Société de Neurologie de Paris.) H. Meige.

July 8, No. 55, pp. 433-440.

43 Resistance of Tubercle Bacilli to Acids and Alcohol. J. Auglair.
44 The Question of Diabetes Produced by Adrenalin. G. Makaroff.
45 Empyema of Maxillary Sinus of Dental Origin. G. Mahé.
46 **Management of Transverse Presentation.* (*Présentations de l'épaule.*) J. Rouvier.
47 Diminution of Vesicular Murmur at Right Apex. (Diminution du murmure vésiculaire au sommet droit.) Montéli and Cornillot.

40. **Necessity for Early Electric Treatment of Reflex Atrophies.**—Zimmern declares that an atrophied muscle, as, for example, in atrophy of the extensor muscles of the knee with hydrarthrosis, is unable to stand any strain. Even the weight of the leg is too much for the frail muscle which has lost much of its tonicity. There is danger of injuring the still vulnerable synovial membrane and of the return of the effusion. Application of electricity is the only means by which this functional inertia can be combated without harm. This applies especially to the reflex atrophy of the posterior bundles of the deltoid in lesions of the shoulder. Isolated contraction of the deltoid can be obtained only by localized electrization, as is also the case with the peroneus longus. Any treatment which defers the return of functional activity to the muscle exposes to the danger of consecutive atrophy: it should resume its work with the minimum of energy, which is the contraction induced by electric stimulus alone.

41. **Salt and the Gastric Secretion.**—Martinet relates some experiences which show that salt favors gastric secretion in man. The local action of salt on the gastric secretion is inhibiting or stimulating according to the habits (carnivora or herbivora), according to the anomalies of the gastric secretion, and according as the salt is given alone or mixed with the food. In his experiments he tested the action of salt by L. Meunier's technic. This is the swallowing of a capsule containing ether, the capsule tied with catgut in a square of thin rubber. As the catgut is digested the little bag opens, the capsule becomes dissolved and the ether escapes, causing an eructation with the odor of ether. The activity of the gastric juice is evidently in inverse proportion to the length of time required for the digestion of the catgut. It is a familiar fact that the addition of salt to the food at the beginning of a meal stimulates the appetite—physiology confirms the precepts of instinct. It has been shown that prolonged suppression of salt in the diet reduces the pain and the vomiting in hyperchlorhydria, while salt given in abundance stimulates secretion of hydrochloric acid. A healthy man tested by the Meunier technic had the ether eructation at the same time with milk and meat—in from 80 to 85 minutes—with and without salt, while the digestion with soft-boiled eggs and with boiled rice was delayed from 10 to 20 minutes when no salt was eaten with them. Repetitions of the test gave the same results each time.

42. **Revised Conceptions of Hysteria.**—Meige states that the work done in this line at the latest French and international neurologic congresses has been inconclusive, but the matter has been recently illuminated at a symposium of the Paris Neurologic Society. The objective facts presented confirm the assumption that the alleged stigmata of hysteria have no pathognomonic value and are merely the results of suggestion, generally of medical origin. Also that modifications of the tendon and pupil reflexes do not belong to the symptomatology of hysteria. Babinski has reconstructed out of the ruins of the old conceptions of hysteria his new definition of it as a special psychic state manifesting itself in disturbances

distinguished by the fact that it is possible to reproduce them by suggestion in certain persons and to cause them to disappear under the exclusive influence of persuasion. He would exclude from the conception of hysteria the so-called hysteric fever, hemorrhages, etc, their alleged hysteric origin being non-proven to date.

46. **Technic for Management of Transverse Presentation.**—Rouvier calls attention to the necessity for substituting the breech for the shoulder in formulating the indications in shoulder presentation. He gives two simple rules to facilitate artificial delivery in transverse presentation: With the obstetric patient in the dorsal or lateral position, lying on the same side as the fetal breech, if the breech is on the right, the physician should be on the right side of the patient and use his right hand for podalic version. If the breech is on the left side, he should be on the left side and use his left hand. In exceptional cases, as of occipito-posterior position in a uterus with pronounced anteversion, if the above technic fails, he turns the patient on her other side and uses his other hand, without changing his position.

Revue de Médecine, Paris.

June XXVIII, No. 6, pp. 505-584.

48 *Myoclonia in a Case of Meningo-encephalomyelitis. (Myoclonie chez un vieillard.) J. Pavlot and L. Nové-Josserand
49 Pathologic Anatomy of Solar Plexus in the Tuberculous.

50 *
51 * P. Hartenberg.

48. **Pathologic-Anatomic Findings in Myoclonia.**—The autopsy findings in the case reported seem to be identical with those characteristic of chronic chorea, and the authors say that it is the first anatomic demonstration of the close relationship between myoclonia and chorea. The chronic meningo-encephalomyelitis showed interstitial and pericellular infiltration of round cells. The reflexes were normal or exaggerated and the mind did not seem to be affected. The patient was a man of 66 who had died from an intercurrent affection.

50. **Symmetrical Lipomatosis.**—Roch discusses the various forms and summarizes twenty-seven cases on record, dwelling especially on the form in which multiple circumscribed and painless lipomata occur on the forearms, thighs and waist. There seems to be a familial and hereditary tendency in this form, suggesting that it is a manifestation of defective development. He points out the features which distinguish it from symmetrical pseudolipomatosis, cervical adenolipomatosis, diffuse symmetrical lipomatosis and adiposis dolorosa. In a case personally observed the patient was a man of 65 with chronic nephritis. In all the cases on record the tumors were noted in childhood or first after some infectious disease; there was never any causal local trauma or nervous affection.

51. **Autosuggestion in Neurasthenia.**—Hartenberg presents evidence to disprove the assumption that the symptoms in neurasthenia are the results of autosuggestion. Those who believe this assumption have failed to differentiate neurasthenia from various neuropathies. The term neurasthenia, he says, should be reserved for the syndrome of nervous depression, and in this autosuggestion plays a subordinate rôle.

Semaine Médicale, Paris.

July 8, XXVIII, No. 28, pp. 325-336.

52 *Fatal Asystole in Exophthalmic Goiter. (Asystole mortelle dans la maladie de Basedow.) G. Mouriquand and L. Bouchut.

52. **Fatal Asystole in Exophthalmic Goiter.**—Mouriquand has attempted to determine whether the tachycardia of exophthalmic goiter is able alone to induce fatal asystole, as many maintain. He has analyzed 260 cases of exophthalmic goiter in the literature, and has found 30 in which death occurred from asystole, but closer study of the history showed aortic lesions in 5, mitral lesions in 12 and combined lesions in 3. In a personal case described, the exophthalmic goiter developed during convalescence from acute articular rheumatism, with fatal asystole in less than three months. In the majority of cases the fatal asystole in exophthalmic goiter is the result of the aggravation of a pre-existing cardiopathy by the disease. In another group the heart may be apparently sound, and the asytole due to chronic nephritis, severe pleurisy or compression in the mediastinum. In a third group of cases the tachycardia seems to be the only factor of the fatal asystole, but such cases prove nothing in the absence of histologic examination of the myocardium. In these cases the course is generally rapid, progressive, without remissions, and the asystole develops only a few weeks after the first symptoms of the exophthalmic goiter. As a rule, it is possible to trace to some infection—generally quite recent—the thyroid lesion which determined the exophthalmic goiter, and also the heart lesion which precipitated the asystole. Ordinarily these cases are due to acute rheumatism, producing at the same time both the thyroid and the cardiac lesions. The cardiac lesion consists in a fresh inflammatory process in the endocardium or myocardium, primary or developing on old lesions. This association is of all the most dangerous, since the rheumatismal infection creates simultaneously the two causes most favorable for the production of fatal asystole: the Basedow tachycardia and the inflammatory cardiopathy.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic.

XII, No. 3, pp. 339-506. Last indexed Dec. 14, 1907, p. 2044, and April 11, p. 1229.

53 Treatment of Suppurative Affections of the Adnexa. H. Fehling.
54 Clinical Study of Hypoplasia and Infantilism of the Genitals. A. Mayer.
55 Pubiotomy in Six Cases. (Hebosteotomie.) J. Karaki.
56 Two Cases of Ovarian Embryoma. Y. Iwase.
57 Causes, Symptoms and Treatment of Tardy Hemorrhage in the Puerperium. (Spätblutungen im Wochenbett.) T. Vogelsanger.
58 Histogenesis and Diagnosis of Ovarian Carcinoma. G. Jung.

XIII, No. 1, pp. 1-172.

59 Comparative Size of Japanese Female Pelvis. (Beckenmessungen an lebenden Japanerinnen.) M. Ogata.
60 Influence of Castration on Development of Pelvis in Lambs. (Entwicklung des knöchernen Beckens nach der Geburt.) K. Franz.
61 Anatomic Research on Nulliparous Uteri with Special Regard to Development of Isthmus. K. Hegar.
62 *Appendicitis in Women and Its Importance in Gynecology. (Appendicitis beim Weibe.) Pankow.
63 Shape of Ureters, especially in the Fetus and the New-born. (Form der Ureteren.) L. Seitz.
64 *Childbirth with Contracted Pelvis. (Geburtsverlauf beim engen Becken.) F. Jacobi.
65 The So-called Myoma Capsule. R. Stern.

62. **Appendicitis in Women and Its Importance in Gynecology.**—Pankow found the appendix sound in less than 25 per cent. of 150 removed in the course of gynecologic operations. Nearly three-fourths of the women had signs of past or present inflammation in the appendix, and he is convinced that there is a close connection between appendicitis and subsequent gynecologic affections. Whenever the female abdomen is opened for any cause, he urges the removal of the appendix as a routine procedure. When macroscopically sound its removal is such a simple matter that it scarcely complicates the operation at all, while it removes one source of gynecologic affections. As appendicectomy is possible only by the abdominal route, this is a decisive argument against vaginal operations. He adds that Pfannenstiel's transverse incision of the fascia has banished all danger of postoperative hernia. He relates a number of typical examples from Krönig's clinic at Freiburg, including some in which the inflammation spread from the appendix to the adnexa or vice versa, of sterility, neurasthenia, retroflexion, etc., for which appendicitis, possibly in childhood, was responsible. He also discusses chronic recurring appendicitis as a cause of abdominal disturbances, and the differentiation of abdominal pain with coexisting hystero-neurasthenia, illustrated by examples of each type. He cites the grave prognosis of appendicitis in pregnancy as another argument in favor of its prophylactic removal.

64. **Course of Childbirth with Contracted Pelvis.**—Jacobi writes from Fehling's clinic at Strasburg to analyze the experiences with 302 childbirths with shallow or contracted pelves, and discusses the mechanism of delivery. The mortality of the children with operative delivery was 24 per cent. The maternal mortality was 1.32 per cent. The principles followed are to wait with primiparæ; in case intervention becomes necessary, high forceps, enlargement of the pelvis or Cesarean section. Multiparæ must decide for themselves beforehand whether treatment shall be expectant or prophylactic. At term, expectant treatment at first, with high forceps later, and if this fails operative intervention.

Berliner klinische Wochenschrift.

June 29, XLV, No 26 pp 1213-1256

66 *Consequences of Syphilis (Folgen der Lues) Waldvogel and Sussenguth
67 *Eczema and Asthma L Langstein
68 *Cirrhosis of Liver Following Lymphatic Leukemia M Mosse
69 *Antagonistic Action of Adrenalin and Lymphagogs Z Tomaszewski and G G Wilenko
70 *Histology and Classification of Acute Ascending Spinal Paralysis (Landrysche Paralyse) A Münzer
71 *Physiology of the Heart Contractions (Herzbewegung und Herzkontraktion) F Rehfisch
72 Yellow Atrophy in Syphilis P Bendig
73 *Improved Technic for Making Diphtheria Antitoxin F Blumenthal
74 Isolated Paralysis of External Rectus with Otitis Media (Isolierte Lähmung des Musculus rectus externus bei gleichseitiger eiteriger Mittelohrentzundung) A Peyser
75 Artificially Induced Hyperemia in Treatment of Flatfoot (Stauungshyperamie bei fixiertem Plattfusse) G Muskat

66 **Consequences of Syphilis**—In this communication from the medical clinic at Gottingen, the after history of 486 patients treated for syphilis, from 1873 to 1882 is reviewed Accurate information was obtained in regard to 297, including 108 women and 6 children This information was obtained from insane asylums and hospitals village authorities and general practitioners throughout the country, mostly in southern Hannover The results show, it is said, that the picture is generally painted too black, as a rule The life expectancy proved to average only two years less than the normal standard Tabes developed in 2 5 per cent and progressive paralysis was responsible for 9 3 per cent of the deaths among the syphilitics The interval between infection and the paralysis ranged from 8 to 27 years This material is tabulated under different headings Of the 491 living children born, 19 4 per cent succumbed during the first year of life a figure which corresponds with the average of 20 5 per cent mortality of infants under 1 year in Prussia during those years The families have an average of 2 42 living and healthy children

67 **Eczema and Asthma**—Langstein discusses the connection between eczema and asthma, relating four case histories to confirm the assumption of the "exudative diathesis" as the basis for the two affections He calls attention anew to the value of a salt free diet in the treatment of eczema, although it has no action on the asthma The latter is best treated by change of air The deprivation of salt by Finkelstein's method proved rapidly effectual in curing the eczema, the child's food contains the standard proportions of fat albumin and sugar to the quart of whole milk, but only one fifth part of the salt

68 **Metalymphemic Cirrhosis of Liver**—Mosse reports a case of lymphatic leukemia in a man of 55 in which the blood picture was restored to normal by Roentgen treatment About one year later signs of cirrhosis of the liver and chronic peritonitis developed, fatal in eight months He ascribes the liver affection to injury of the parenchyma cells by the lymphocytes destroyed by the Roentgen treatment, similarly to the injurious action of alcohol on the red corpuscles, to which Kretz and others ascribe the cirrhosis of the liver in 'gin liver" He says that this is the first case on record of lymphatic leukemia with histologic findings after prolonged Roentgen exposures

69 **Antagonistic Action of Adrenalin and the Lymphagogs**—This communication from Senator's laboratory suggests that mechanical factors may predominate in the effects of adrenalin on the sugar metabolism The adrenalin retards the lymph current and the blood thus contains less of the substances which are normally contained in the blood and which are needed for the oxidation of the carbohydrates

70 **Histology and Classification of Landry's Paralysis**—Münzer presents evidence to show that acute ascending spinal paralysis is the result of acute poliomyelitis which possibly may have been caused by some intoxication of the organism

71 **Physiology of the Heart Contractions.**—Rehfisch describes experiments on 50 dogs undertaken to determine the relations between the difference between the maximal and minimal blood pressure and the amplitude of the heart's contractions

73 **Production of Diphtheria Antitoxin.**—Blumenthal treats the horses by injection of the toxin directly into the lungs through the intercostal spaces The spongy structure of the lungs allows injection of large amounts of the toxin, while the specific activity of the lung cells leads to the production of exceptionally large amounts of antitoxin He gives the details of inoculation of two horses showing the exceptionally large amounts of antitoxin units in their serum under this intrapulmonal technic He thinks that this method yields a very powerful serum in the briefest time, with less harm to the animal and with the least signs of reaction Experiments with intratracheal inoculation showed that by this route the toxin is absorbed too rapidly into the blood before it is able to induce the local specific reaction

Deutsche medizinische Wochenschrift, Berlin.

July 2 XXXIV No 27 pp 1169-1216

76 *Treatment of Exophthalmic Goiter (Basedowsche Krankheit) M Bernhardt
77 *Operative Treatment of Embolism of Pulmonary Artery (Operation der Embolie der Lungenarterie) F Trendelenburg
78 Differential Diagnosis of Inflammation of Appendix and Adnexa Rinne
79 Binding of Complement in Relapsing Fever (Komplementbindung bei Recurrenserkrankungen des Menschen und experimenteller Recurrens Spirochätose der Mause und Ratten) W Kolle and P Schatiloff
80 Resistance of Trypanosomes to Atoxyl (Atoxylfestigkeit der Trypanosomen) A Breinl and M Nierenstein
81 Serum Treatment in Eye Affections (Serumtherapie bei Erkrankungen des Auges) A v Hippel
82 Chancre at Point of Experimental Inoculation (Syphilitischer Initialaffekt der Bauchhaut an der Einstichstelle nach Impfung in die Hoden von Affen und Kaninchen) E Hoffmann, H Lohe and P Mulzer
83 *Sarcoma of Lymph Glands Simulating Granuloma (Granulomatiges Sarkom der Lymphdrusen) Dietrich
84 Indifferent Results with Finkelstein's Salt free Diet in Treatment of Eczema etc, in Infants (Salzarme Kost beim Sauglingsekzem beim Strophulus und Pruritus infantum) B Spiethoff
85 *Sawdust Bread in Treatment of Habitual Constipation K Blumel and H Ulrici
86 *Ultimate Results of Tracheotomy F Lehnerdt

76 **Treatment of Exophthalmic Goiter.**—Bernhardt does not advise an operation until all other measures have failed, unless the goiter had preceded the other symptoms The remarkably fine results of operative treatment in the hands of Kocher are undoubtedly due to the fact that in Switzerland the thyroid gland is almost universally abnormal It is probable that when good results are obtained from operative measures the exophthalmic goiter was a secondary rather than a primary affection He advocates galvanic treatment as sure to do no harm while it may help the patient In a certain number of cases it has proved of great benefit Rest is the main requirement in treatment In case of excessive heart action or with much weakness and anemia the patient should be kept permanently in bed The good results of a sojourn in the mountains have been established again and again Hydrotherapy is also useful avoiding cold procedures, except that an ice or cold water bag may be applied to the heart region to relieve severe symptoms Iron, arsenic and quinin make a good tonic with bromids when there is much agitation, and heart tonics when indicated The majority of exophthalmic goiter patients have a neuropathic inheritance, the affection displays a hereditary and familial tendency and other severe neuroses are often to be found in the family history These facts, he says open a wide field for prophylactic action on the part of the physician

77 **Operative Treatment of Embolism of the Pulmonary Artery.**—Trendelenburg gives an illustration of the emboli removed from the pulmonary artery of a man of 45 One embolus measured about 12 inches The patient succumbed the next day and autopsy showed that he had overlooked another large embolus which proved responsible for the fatal termination—a mistake which could be avoided in other cases The emboli can be extracted through a very small incision in the elastic wall of the artery He hopes that the two experiences on record (see Sievers's report summarized in THE JOURNAL July 25 page 358) will convince the doubters that operative treatment of embolism of the pulmonary artery is not a flashy example of surgical daring, but a well justified procedure, adapted to its purpose, with which it will be possible under favorable circumstances, to save from certain death otherwise doomed individuals

83. **Sarcoma of Lymph Glands Simulating Granuloma.**—Dietrich warns of the possible latent sarcomatous nature of progressive enlargement of lymph glands diagnosed clinically as pseudoleukemia. Even when an excised scrap shows the structure of a granuloma, this does not exclude sarcoma. In examining such a case the connective tissue around the lesion should also be investigated for signs of sarcoma. He relates four cases; no signs of tuberculosis could be discovered, but granulomatous sarcomatous degeneration of glands in the abdomen or thorax was evident The patients were men, one was quite young. The sarcoma had invaded the veins in some of the cases.

85. **Sawdust Bread for Habitual Constipation.**—Blumel says that an ounce of finely sifted beech wood sawdust can be worked into a pound of wheat bread dough without affecting the taste. He has used this "cellulose bread" in eighty cases and found it effectual in curing even old, rebellious constipation. The patients ate this bread exclusively after a preliminary course of castor oil or injections The only failures were in severe cases of hysteria or neurasthenia, chlorosis or enteroptosis. He warns that the trees must be felled late in the fall or the sawdust will have an unpleasant taste.

86 **Ultimate Results of Tracheotomy.**—No after effects were discovered in examining, at a later date, 173 children out of the 264 discharged from the Leipsic Surgical Clinic out of 404 on whom tracheotomy was performed in the twelve years before 1905. Lehnerdt, however, found 16 cases of stenosis in examining the remote results of the 1,539 tracheotomies performed at the Children's Hospital at Leipsic between 1892 and 1905. More than half of the operations in this latter group were done on children under 3, and the mortality was twice as high as among the older children. Of the 16 cases of stenosis, 14 developed between 1902 and 1905, while only two instances of stenosis were recorded in the ten preceding or the following years

Münchener medizinische Wochenschrift.

June 30, LV, No. 26, pp. 1369 1416.

87 *Chyluria II Lüdke.
88 *Ocular Tuberculin Reaction (Ophthalmoreaktion der Tuberkulose in ihrer Beziehung zum Sektionsergebnis und zur Tuberkulininjektion) G Fehsenfeld Id (Konjunktival reaktion bei Genitaltuberkulose) A Hörrmann.
89 *Ocular Typhoid Toxin Reaction (Ophthalmoreaktion bei Typhus abdominalis) A. Meroni
90 *Ocular Tuberculin Reaction (Ist die konjunktivale Tuberkulin reaktion ungefährlich?) M Goerlich
91 *Cutaneous Tuberculin Reaction in Infants (Die kutane Tuberkulinimpfung nach v. Pirquet bei Kindern des 1. Lebensjahres) Morgenroth
92 *Use of Gum Arabic in Spinal Anesthesia (Verwendung von Gummi als Zusatz zum Anästhetikum bei Lumbalanästhesie) E. Erhardt.

87 **Chyluria.**—Lüdke reports a case of chyluria in a maid servant in Germany, 46 years old, who had never lived in the tropics. No filaria could be discovered; the chyluria developed after an attack of cholecystitis The colon bacillus could be cultivated repeatedly from the urine in almost pure cultures He thinks that the inflammation in the bladder had probably led to the flow of lymph. There did not seem to be any chylemia, but the urine contained a larger proportion of fat than mere admixture with chyle would produce. Another remarkable feature of the case was that the total amount of urine was not increased, as it would be if there was actual lymphorrhagia. The general health did not seem to be impaired, although the patient eliminated from 60 to 130 grains of fat in the urine daily. This elimination proceeded regularly and was accompanied by about 0 1 per cent. of dextrose. On a diet of much fat or no fat the elimination of fat in the urine did not fluctuate, and the urine has been persistently milky since February, 1908.

88. **Ocular Tuberculin Reaction.**—Fehsenfeld compares the conjunctival response with the autopsy findings or the results of tuberculin injection. His experience includes 168 cases, with autopsy in 25 His conclusions are that the ocular test is useful as corroborative evidence, but that it has no decisive importance in diagnosis. Hörrmann discusses its differential value in genital tuberculosis, remarking that a positive response is generally obtained in clinically certain cases, with the exception of those with cachexia. The response is thus important for the prognosis. A negative response in an adult is presumptive of freedom from tuberculosis, but comparison of long series of autopsy findings is needed to decide this question definitely. Goerlich has had some disagreeable experiences with conjunctival instillation of tuberculin which show that the 1 per cent. solution can not be applied indiscriminately. Infants and scrofulous children should be excluded from the test, as also persons with the slightest tendency to irritation of the eyes or even of the nasopharynx, and to hysteria and hypochondria.

89. **Ocular Reaction in Typhoid.**—Meroni has been testing the instillation of typhoid toxin in the eye as a means of early diagnosis, according to Chantemesse's technic mentioned in THE JOURNAL, April 25, page 1344. He found in an experience with 55 patients that the reaction may be positive even after six hours, not only with typhoid patients, but also with others suffering from other maladies, as he tabulates in detail. After twenty-four hours the absence of reaction speaks against typhoid. The test has thus considerable practical value. Some individuals with exceptionally sensitive conjunctiva respond with a strong reaction to instillation of even an indifferent substance, such as sterile bouillon. No deleterious by-effects were noted in any instance, and the efficiency of the typhoid toxin was not impaired by heating to 60 C. He is now engaged in research to compare the sensitiveness of the conjunctiva in health and in typhoid fever to typhoid and colon bacillus toxin.

90. See abstract No. 88 above.

91. **Cutaneous Tuberculin Reaction in Infants.**—Morgenroth expatiates on the convenience of the Pirquet technic for infants and its reliability. Even in the doctor's office, without any special preparation, the test can be made with diluted "old" tuberculin without the slightest inconvenience for the child. Whenever a child gives a positive response his home environment should be investigated. Invariably in his experience some one with open tuberculosis was found in the family. The infection in infants is generally the result of inhalation, he thinks. Positive findings were obtained in 5 per cent. of the 200 infants under a year old thus tested at the Cologne children's clinic last winter.

92. **Addition of Mucilage to Anesthetic for Spinal Anesthesia.**—Erhardt relates further successful experiences with this technic. He thinks that the addition of a little gum arabic to the anesthetic materially prevents its absorption by the higher centers while not interfering with its anesthetic action, thus minimizing the dangers. He is enthusiastic over the prospects of spinal anesthesia when the surgeon once becomes accustomed to the idea that the patient can hear all he says, and when the patients learn that operations by this technic are absolutely painless and free from the after-effects of general anesthesia. One great advantage is that the surgeon can take his time, confident that the analgesia will last for hours.

Therapie der Gegenwart, Berlin.

July, XLIX, No. 7, pp. 289-336.

93 *Local Measures to Enhance Efficacy of Diphtheria Antitoxin (Die Natürlichen Grenzen der Wirksamkeit einer Heilserum Behandlung bei der Diphtheria faucium und ihre gelegentliche notwendige Ergänzung durch bestimmte lokale Massnahmen.) G Krönig.
94 Soluble Sedatives of the Veronal Group. (Therapeutische Verwendung leicht löslicher Schlafmittel aus der Veronalgruppe.) E Steinitz.
95 *Action and Elimination of Drugs Injected Intravenously. (Wirkung und Ausscheidung intravenös injizierter Medikamente) F Mendel
96 *Manual Mechanical and Gymnastic Treatment of Emphysema of Lungs and Bronchial Asthma F. Kirchberg.
97 *The General Practitioner and Roentgen Treatment. (Der praktische Arzt und die Röntgenbehandlung.) M. Levy-Dorn.

93. **To Enhance the Efficacy of Diphtheria Antitoxin.**—Krönig discusses the natural limitations of antitoxin treatment of diphtheria. The results depend on the proportion between the amount of the toxins circulating in the blood and the amount of antibodies introduced in the curative serum and whether the antibodies can obtain access to the toxins. He expresses amazement that so little attention has been paid hitherto to the distention of the swollen tissue with its stoppage of the capillaries, preventing the circulating of blood and

lymph through the region. This principle is recognized and applied everywhere else, the physician relieving conditions in infiltrates in which the circulation has been more or less arrested by one or more incisions. The circulation is generally at once re-established and necrosis and gangrene are warded off. This measure is particularly needed in diphtheria on account of its pronounced tendency to induce gangrene. In the diphtheric local process the toxin in the blood and the antibodies in the injected serum are unable to come into contact, and consequently the serum fails of its effect, while the products of the gangrenous process are absorbed and keep up the vicious circle. He makes a practice now of incising the diphtheric process in the throat when the fever does not subside after the injection of antitoxin and the diphtheric lesion in the throat remains hard and swollen. The incision generally bleeds very little; the more it bleeds the less obstruction in the capillaries. To promote the bleeding he applies warm compresses outside, and has the mouth rinsed with warm water to which a little mild antiseptic has been added. The procedure is but slightly painful, but the relief induced is frequently surprising, the temperature dropping at once, even although it had persisted high after one or two large injections. Since he has been systematically thus incising the hard swollen local process he has had much better results with antitoxin treatment. The number of gangrenous cases has been reduced to the minimum. These experiences confirm anew the necessity for injecting the serum at the earliest possible moment, while the vascular passages in the region of the local process are still open and unobstructed.

95. **Intravenous Medication.**—Mendel is a warm advocate of intravenous medication, and here describes further experiences with it and research on the action and elimination of drugs injected into the veins. For this research sodium salicylate and iodid, each in a 20 per cent. solution, are particularly instructive as they are taken up entirely by the circulation and their elimination can be easily and completely traced. The desired concentration of the drug in the blood can be obtained with smaller doses by intravenous injection, and the elimination is much slower than by other routes, which still further enhances the effect. This renders the danger of toxic cumulation more imminent in intravenous administration of such drugs as strophanthin and digitalis.

96 **Mechanical Treatment of Emphysema and Asthma.**—Kirchberg gives an illustrated description of a method of manual-mechanical massage of the chest in case of emphysema and bronchial asthma, supplemented by exercises in breathing The aim is to expel the residual air, and for this he trains the patient to inhale sharply and then make the expiration as long and deep as possible. He claims that great relief can be obtained by these deep, prolonged expirations. He thinks that this aim is not realized by mobilizing the chest by chondrotomy, the Freund technic, as this does not affect expiration. The ribs do not move with deep expiration; only the diaphragm is drawn up more and more into the thorax He applies vigorous massage treatment every day for three or four weeks at first, in the morning, with occasional rests, the total sitting being about twenty minutes long The hyperemia induced by the massage aids in the relief experienced, while the general health improves.

97. **Roentgen Treatment.**—Levy-Dorn gives several examples of conditions indicating Roentgen treatment, as a guide to the general practitioner. Leukemia, sarcoma, lupus, sycosis, favus, rebellious psoriasis, pruritus and eczema are liable to be much benefited, he declares, as also are chronic joint affections, enlarged prostate and goiter, chronic rheumatism, exophthalmic goiter and certain neuralgias.

Wiener klinische Wochenschrift.

July 2, XXI, No. 27, pp. 970,1004.

98 Murmurs in the Pulmonary Area. (Im Gebiete der lungenarterie entstehende Geräusche.) L. v. Schrotter.
99 Fate of Spermatozoa (Schicksal der Spermatozoen, welche nicht zur Befruchtung gelangen) H Konigstein
100 Bacteriologic Findings in Suppurative Bronchitis R Pollak
101 Injection of Pneumococcus Cultures and Antiserum for Corneal Ulcers (Das Romersche Immunisierungsverfahren in Fallen von Ulcus serpens corneae) W. Reis
102 *Tardy Rachitis. (Späte Rachitis) E Miesowicz.
103 Cutaneous Tuberculin Reaction in Children. (Kutane Tuberkulinreaktion im Kindesalter.) O Gröner.
104 Pigment of Pneumonic Sputum (Farbstoff des pneumonischen Sputums) L Pollak.
105 "Blood Dust." (Ultrateilchen des Blutplasmus.) A. Neumann.

102. **Tardy Rachitis.**—Miesowicz reports a case and reviews the literature. The distinguishing features are the development of the affection after the tenth year. the malformation of the long bones with distinct enlargement of the epiphyses of these bones, the influence of treatment and the characteristic Roentgen pictures of the junction of the epiphysis and the shaft. His patient was a girl of 17. The trouble began with pains in the ankles and their enlargement.

Zentralblatt für Chirurgie, Leipsic.

July 4, XXXV, No. 27, pp. 809-840.

106 Operation for Cleft Palate. (Technik der Gaumenspaltenoperation.) C. Helbing
107 Suggestion for Operation on Low Diverticulum in Esophagus (Zur Operation tiefsitzender Oesophagusdivertikel.) Lotheissen.

Zentralblatt für Gynäkologie, Leipsic.

July 4, XXXII, No 27. pp. 873-904.

108 *"Lightning" Treatment of Cancer (Behandlung des Karzinoms mittels Fulguration durch Dr. Keating Hart) G Leopold
109 Delivery by Muller's Technic (Extraktion nach Müller.) E Kaufmann
110 Two Cases of Spontaneous Rupture of Uterus. K. Eisenstein.

108. **"Lightning" Treatment of Cancer.**—Leopold describes a visit to Keating Hart at Marseilles to investigate the results of "fulguration" or "lightning" treatment of cancer, described in THE JOURNAL, March 21, 1908, page 1001. He says that the written descriptions of the method give very little idea of the technic which Hart has worked out in the course of several years. He regards the fulguration as merely a preliminary or adjuvant to the knife. The improvement realized even in advanced cases is remarkable, relieving the patient of hemorrhage. pains and ichorous discharge for a time at least. Disseminated nodules of recurring mammary carcinoma are fulgurated each for five or ten minutes. This softens the nodules and prepares them for excision, after which he fulgurates for twenty or thirty minutes. The fulguration does not lead to the formation of an eschar; the tissue merely turns brownish and edematous, with free exudation of lymph.

Hygiea, Stockholm.

May, LXX, No. 5, pp 401-479.

111 *Syphilis in Registered Prostitutes, Especially Tertiary Manifestations. (Syfilis hos reglementerade kvinnor sarskildt med afseende pa tertiarismen) H I Schlasberg.
112 *Detection of Tubercle Bacilli in Urine. E Key.

June, No. 6, pp. 481-591.

113 *Operations on Hemophiliacs (Om hamofili och kirurgiska ingrepp hos hamofila personer.) K Dahlgren.
114 *Surgery of Brain Tumors, with a Case (Om hjarntumorernas kirurgi) G. Naumann.
115 Cervical Ribs (Om halsrefben) A. Reuterskiöld
116 *Enzyme Reactions of Cow's Milk and Their Importance for Hygienic Control of Milk Supply. (Komjolkens enzymreaktioner) C. Barthel.

111. **Tertiary Syphilis After Thorough Mercurial Treatment.**—Schlasberg records the pathologic history of 1,500 registered prostitutes at Stockholm who presented symptoms of syphilis between 1885 and 1906. All were given thorough specific treatment, but tertiary symptoms developed in 137. The percentage of those who had taken from one to nine courses of treatment was about the same in the tertiary and the non-tertiary cases: 21.6 per cent. of 116 tertiary and 18.1 per cent. of 855 non-tertiary—all under observation for more than five years—who had taken one course; 25.9 and 27 3 per cent. with two courses; 18.1 and 22.2 per cent. with three courses: 13 8 and 15.2 per cent. with four courses, and from 5 to 6 9 per cent. with seven to nine courses. The extent and severity of the secondary manifestations did *not* seem to have any connection with the prognosis, except possibly that the secondary manifestations had been comparatively milder in the cases in which tertiary symptoms developed later. Recurrence of the tertiary manifestations was observed in 34.3 per cent . mostly between the ages of 20 and 30; the interval

between infection and their development ranged from one to twenty-six years, but averaged from four to eleven years.

112. **Determination of Tubercle Bacilli in Urine.**—Key relates a few instructive cases of urogenital tuberculosis and dwells on the differentiation of tubercle from smegma bacilli, which is frequently a difficult matter, as he shows by several case histories. He comments further on the danger of carrying tubercle bacilli up into the kidney from the bladder or prostate when catheterizing the ureters. To avoid this the catheter must not be pushed too far in while the cystoscope is being introduced into the bladder. The tip of the catheter should be kept an inch or so back from the mouth of its tunnel in the cystoscope. He advocates connecting the catheter with an irrigator and sending a constant stream of salt solution through it during the entire procedure. No antiseptic must be used, as it would interfere with the cultivation of bacilli from the urine. He has done this in several cases, flushing the parts constantly as the cystoscope was being introduced and thereafter. In case of tuberculous processes in the bladder or prostate it might be wiser to expose the ureter and, through a small slit in it, introduce the catheter into the kidney. This seems to be the only way to avoid erroneous *conclusions from transportation* of bacilli from below, when conditions are such that there is little prospect of being able to rinse the bladder and prostate entirely free of germs before introducing the catheter. He thinks inoculation of guinea-pigs is indispensable to decide the question of the presence or absence of tuberculosis, adding that Block's method of crushing the glands near the point of inoculation hastens the development of the tuberculous lesion.

113. **Surgery on Hemophiliacs.**—Dahlgren had to operate in two cases of threatening appendicitis in men of 19 and 40. Both were "bleeders" and the operation was done only as the last resort and under every precaution. Neither patient survived the excessive loss of blood. Dahlgren believes that marriage should be forbidden to persons liable to beget bleeders, especially the women in a hemophiliac family, whether they are themselves bleeders or not. This prohibition need not extend to the male members of the family if they are free themselves from the tendency to hemophilia. The general health of a hemophiliac child should be kept constantly at its highest point, and the attendants, teachers and mates of the child should be instructed to ward off trauma of all kinds. No surgical measures should ever be attempted except in case of vital necessity. Preventive treatment with serum, lime salts or other hemostatic might be tried in this case. In the two cases reported the appendicitis was not responsible for the fatal outcome, but merely the loss of blood which oozed constantly from the wound, uninfluenced by lime salts and other hemostatic measures. The hemophiliac tendency was known beforehand in the younger man.

114. **Brain Tumors.**—Naumann's patient was a woman of 22 with symptoms indicating a tumor in the arm and leg motor center, and one was found at this point. It was encapsulated, about 4 or 5 cm. (1½ to 2 in.) in diameter and weighed 60 gm. (nearly two ounces). The main symptoms subsided completely; vision returned, and there have been no convulsions, headaches, vomiting or vertigo since the operation and no signs of recurrence during the interval of more than a year to date. The first symptoms had been observed nearly two years before the operation.

116. **Enzyme Reaction as Test for Milk Supply.**—Barthel reports a number of tests which showed, among other things, that milk kept on ice for several days, while its acidity did not increase, yet showed a constant multiplication of bacteria from about 10,000 or 220,000 to 49,000,000 or more per c.c. He advocates the methylene blue test (5 c.c. of a saturated alcoholic solution of methylene blue plus 190 c.c. of water—no formalin). He adds 0.5 c.c. of this solution to 10 c.c. of milk, pouring a few c.c. of fluid paraffin on top to keep out the air. The test-tube is then placed on the water bath at a temperature of 40 or 45 C. (104 or 113 F.). If the fluid loses its color in a few minutes, there are certainly more than 100,000,000 bacteria to the c.c. Pure milk takes more than [illegible] hours to destroy the tint.

Books Received

BREEDING GROUNDS OF CULICIDAE. By C. W. Daniels, M.B., Camb., M.R.C.S., Eng., Director of the Institute for Medical Research, Federated Malay States. THE CULICIDAE OF MALAYA. By G. F. Leicester, M.B., C.M., Edin., Assistant in the Institute for Medical Research, Federated Malay States. Studies from the Institute for Medical Research, Federated Malay States. Vol. 3, Part 3. Paper. Pp. 269. Singapore: Kelley & Walsh, 1908.

DIAGNOSIS BY THE URINE. By Allard Memminger, M.D., Professor of Chemistry and Hygiene and Clinical Professor of Urinary Diagnosis in the Medical College of South Carolina. Third edition. Cloth. Pp. 116, with illustrations. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

THE BABY: ITS CARE AND DEVELOPMENT. By Le Grand Kerr, Professor of the Diseases of Children in the Brooklyn Postgraduate Medical School. Cloth. Pp. 150, with illustrations. Price, $1.00. Brooklyn: Albert T. Huntington, 1908.

MANUAL OF INSANITY. By H. C. Rutter, Columbus, Ohio, Medical Director Mental and Nervous Department of the Ohio Sanatorium Columbus Ohio. Cloth. Pp. 295. Price, $2.50. Columbus: The Midland Pub. Co., 1905.

INFLUENCE OF FOOD PRESERVATIVES AND ARTIFICIAL COLORS ON DIGESTION AND HEALTH. IV.—Benzoic Acid and Benzoates. By H. W. Wiley, M.D. Paper. Washington: Government Printing Office, 1908.

THE SPHERE OF THE TRAINED NURSE. By W. A. Newman Dorland, A.M., M.D., Assistant Instructor in Obstetrics in the University of Pennsylvania. Paper. Pp. 32. Philadelphia School for *Nurses, 1908.*

ERNÄHRUNG UND KÖRPERBESCHAFFENHEIT. (Beiträge zum Konstitutionsbegriff). Von Kreisarzt Dr. Bachmann, zu Harburg a. E. Paper. Pp. 29. Munich: Verlag der Aerztlichen Rundschau (Otto Gmelin).

GRUNDZÜGE EINER SEXUELLEN PÄDAGOGIK IN DER HÄUSLICHEN ERZIEHUNG. Von Dr. med. Julian Marcuse. Paper. Pp. 45. Price, 30 cents. Munich: Verlag der Aerztlichen Rundschau (Otto Gmelin).

THIRTEENTH ANNUAL REPORT of the Board of Health of the City of Lawrence, Massachusetts For the Year Ending Dec. 31, 1907. Paper. Pp. 57. Lawrence, Mass.: W. T. Reardon, 1908.

THE NATURAL HISTORY OF CANCER. By W. Roger Williams, Fellow of the Royal College of Surgeons. Cloth. Pp. 519. Price, $5.00. New York: William Wood and Co., 1908.

WOMEN IN INDUSTRY. By Louis D. Brandeis. Paper. Pp. 113. New York: National Consumers' League.

NEW PATENTS.

Recent patents of interest to physicians:

891758. Sterilizing cabinet. J. M Allspaw, Michell, Ind.

891678. Operating and fracture table. J. H. Downey, Gainesville, Ga.

891679. Operating table. J. H. Downey, Gainesville, Ga.

891533. Pneumatic knee-pad. P. P. Gibbs, Gordon, Texas.

891776. Vibrator for movement-cure purposes. J. B. Kirby, Cleveland, Ohio.

891577. Ice-cream cooler and soda-fountain. W. H. Wallace, Indianapolis.

892022. Preparing hemostatic dressing. A. W. Ball, London, Eng.

891911. Atomizer. J Cooperider, Madison, Ind

892249. Electrical vibrator. M. K. Golden, San Francisco.

892047. Hospital-bed sheet. A. C. Halterman, Buckhannon, W. Va.

891956. Indicating bottle. W. C. Schmidt, Richmond, Va.

892341. Massage appliance. A. Weintraud, London, Eng.

892703. Combined atomizer and powder-distributor. W. J. Barber, Honeoye Falls, N. Y.

892580. Sterilizing water, etc. R. A. Cambier, Tixier, and C. E. Adnet, Paris, France.

892717. Inhaler. G. Ermold, Elizabeth, N. J.

892817. Invalid bed with commode attachment. W. C. Freely, New York.

892842. Manufacture of peroxid of potassium. G. F. Jaubert, Paris, France.

892441. Electrotherapeutic generator. S. N. Metzler, Indianapolis.

892560. Appliance for removing facial defects. M. B. Smith, Syracuse, N. Y.

893146. Truss. W. Crombie, Lincoln, Neb.

893459. Sanitary belt. L. J. Davis, Battle Creek, Mich.

893464. Obstetrical forceps. W. B Dewees, Salina, Kans.

893064. Ankle supporter. C. H. Ferris, Brooklyn.

893232. Optical testing instrument. J. F. Forth, Syracuse, N. Y.

893241. X-ray meter. G. C. Johnston, Pittsburg, Pa.

893354. Nebulizer. R. R. McGregor, Waco, Texas.

893021. Cup or head for massage devices. C. M. Siebert, Jr., Columbus, Ohio

893208. Disinfecting apparatus. J. R. Van Dyne, Sedalia, Mo.

893213. Respirator. W. T. Whiteway, Cambridge, Mass.

894095. Truss. J. A. Anderson, Council Bluffs, Iowa.

893603. Water-purifier. J. Bower, Jr., London, Ont., Canada.

893995. Nasal douche. E. W. Grove, St. Louis.

893843. Dropper-bottle. G. A. Hamman, Lawrence, Kans.

893868. Vibrator. G. B. Pickop, New Britain, Conn.

894166. Means for producing and utilizing rays of light for therapeutic purposes. C. E. Rogers, Seattle, Wash.

893755. Mirror for optical instruments and making same. G. N. Saegmuller, Rochester, N. Y.

894066. Surgical appliance. L. G. Scarpa, Turin, Italy.

894068. Construction and arrangement of sitting and bed-rooms in mansions of all kinds, especially hotels, sanitariums, and the like. B. Scherl, Erfurt, Germany.

893816. Starting device for mercury vapor apparatus. G. Schwarz and J. Amon, New York, N. Y.